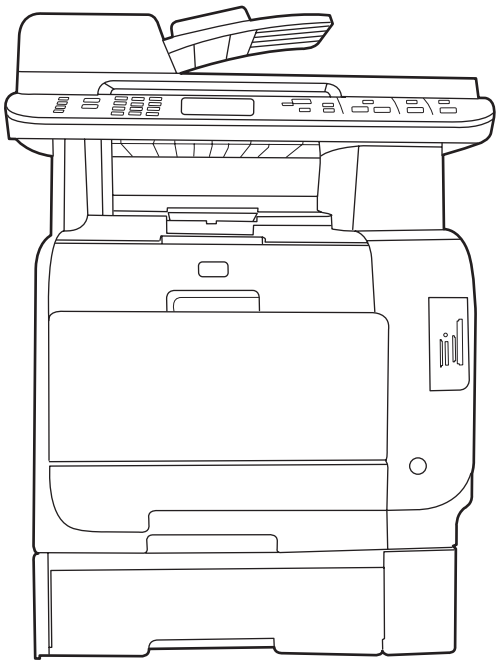
HP Color LaserJet CM2320 MFP Series
User Guide



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User Guide

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1 Product basics

- Product comparison
- Product features
- Product walkaround

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Product comparison

The product is available in the following configurations.

HP Color LaserJet CM2320 MFP	**HP Color LaserJet CM2320 MFP Fax Model**	**HP Color LaserJet CM2320 MFP Memory-Card Model**
• Prints letter-size pages at speeds up to 20 pages per minute (ppm) and A4-size pages at speeds up to 19 ppm. • PCL 6 printer drivers and HP postscript level 2 emulation. • Tray 1 holds up to 50 sheets of print media or up to 10 envelopes. • Tray 2 holds up to 250 sheets of print media. • Optional 250-sheet input tray (tray 3) available. • Hi-Speed USB 2.0 port and 10/100 Base-T network port. • 160-MB random-access memory (RAM). • Flatbed scanner and 50-page automatic document feeder (ADF). • One available DIMM slot for memory expansion (accepts 64 MB and 128 MB DIMMS).	HP Color LaserJet CM2320 MFP, plus: • V.34 fax modem and 8-megabyte (MB) flash fax-storage memory. • Two RJ-11 fax phone line ports • Color graphics display	HP Color LaserJet CM2320 MFP Fax Model, plus: • Automatic two-sided (duplex) printing, fax receiving, and copying. • Four memory card slots • Additional 250-sheet input tray (tray 3) included.

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Product features

Performance	• Prints up to 20 ppm (letter) or 19 ppm (A4).
Print quality	• 1,200 dots per inch (dpi) with Image REt 2400 text and graphics. • Adjustable settings to optimize print quality. • The HP UltraPrecise print cartridge has a finer toner formulation that provides sharper text and graphics.
Fax (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)	• Full-functionality fax capabilities with a V.34 fax; includes a phone book, fax/tel, and delayed-fax features.
Copy	• Includes ADF that allows faster, more efficient copy jobs with multiple-page documents.
Scan	• The product provides 1,200 pixels per inch (ppi), 24-bit full-color scanning from letter/A4-size scanner glass. • The product provides 300 ppi, 24-bit full-color scanning from the automatic document feeder (ADF). • Includes an ADF that allows faster, more efficient scan jobs with multiple-page documents.
Memory card slots (HP Color LaserJet CM2320 MFP Memory-Card Model only)	Supports a variety of memory cards. See Photo on page 159 for more information.
Networking	• TCP/IP ◦ IPv4 ◦ IPv6
Printer driver features	• Fast printing performance, built-in Intellifont and TrueType scaling technologies, and advanced imaging capabilities are benefits of the PCL 6 printer language.
Interface connections	• Hi-Speed USB 2.0 port. • 10/100 Base-T ethernet network port (RJ-45). • RJ-11 fax/phone cable ports.
Economical printing	• N-up printing (printing more than one page on a sheet). • Two-sided printing using the automatic duplexer.
Supplies	• A supplies status page that displays the amount of life remaining in the print cartridge. • No-shake cartridge design. • Authentication for HP print cartridges. • Enabled supplies-ordering capability.
Accessibility	• Online user guide that is compatible with text screen-readers. • Print cartridges can be installed and removed by using one hand. • All doors and covers can be opened by using one hand.

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Product walkaround

Front view

1	Optional tray 3 (standard on the HP Color LaserJet CM2320 MFP Memory-Card Model)
2	Tray 2
3	Tray 1
4	Print-cartridge door latch
5	Top (face-down) output bin
6	Control panel
7	Automatic document feeder (ADF) input tray
8	Automatic document feeder (ADF) output bin
9	Memory card slots (HP Color LaserJet CM2320 MFP Memory-Card Model only)
10	Power switch

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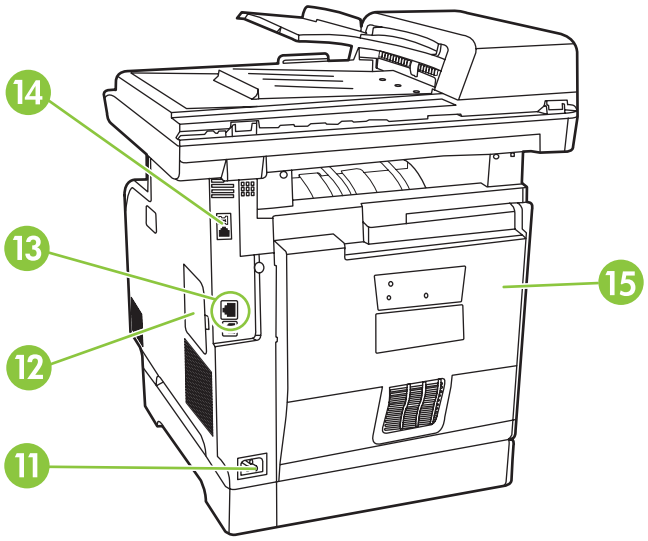
Back view



11	Power connector
12	DIMM door (for adding additional memory)
13	Hi-Speed USB 2.0 port and network port.
14	Fax ports (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)
15	Rear door for jam access

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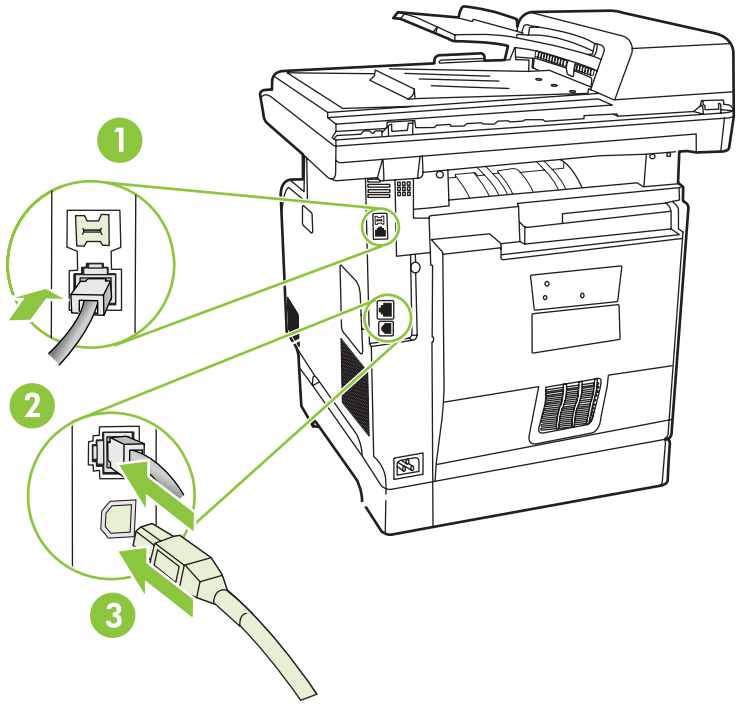
Interface ports



1	Fax ports (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)
2	Network port
3	Hi-Speed USB 2.0 port

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2 Control panel

- HP Color LaserJet CM2320 control panel
- HP Color LaserJet CM2320 MFP Fax Model and HP Color LaserJet CM2320 MFP Memory-Card Model control panel
- Control-panel menus

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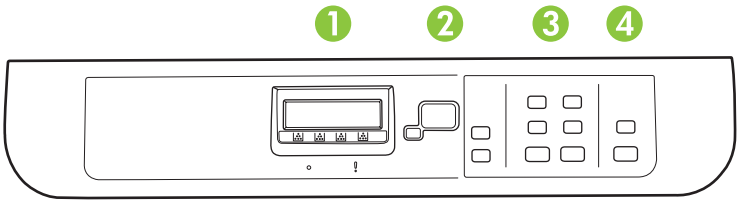
HP Color LaserJet CM2320 control panel



1	**Liquid Crystal Display**
2	**OK button and navigation arrows.** Use these buttons to select and confirm menu choices. **Cancel button.** Use this button to cancel the current menu selection. **Setup button.** Access the main Setup menu. **Back button.** Go back to the previous menu.
3	**Copy Menu button.** Access the Copy menu. **Start Copy Black button.** Perform a black and white copy operation. **Start Copy Color button.** Perform a color copy operation.
4	**Scan Menu button.** Access the scan menu. **Start Scan button.** Perform a scan operation.

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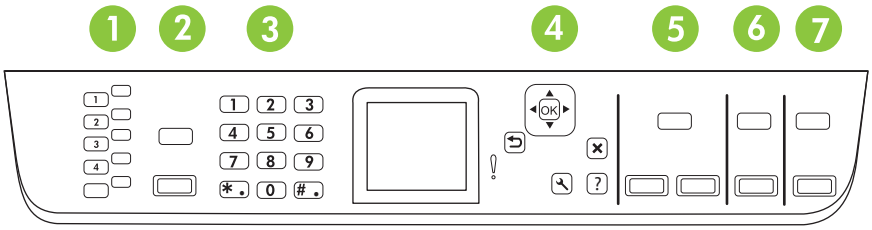
HP Color LaserJet CM2320 MFP Fax Model and HP Color LaserJet CM2320 MFP Memory-Card Model control panel



1	**Speed dials.** 4 speed dial buttons and one shift button to support up to 8 speed dials.
2	**Fax Menu button.** Access the fax menu. **Start Fax button.** Initiate a fax from the control panel.
3	**Alphanumeric buttons.** Use the alphanumeric buttons to type data into the product control-panel display and dial telephone numbers for faxing.
4	**OK button and navigation arrows.** Use these buttons to select and confirm menu choices. **Cancel button.** Use this button to cancel the current menu selection. **Setup button.** Access the main Setup menu. **Back button.** Go back to the previous menu.
5	**Copy Menu button.** Access the Copy menu. **Start Copy Black button.** Perform a black and white copy operation. **Start Copy Color button.** Perform a color copy operation.
6	**Scan Menu button.** Access the scan menu. **Start Scan button.** Perform a scan operation.
7	**Email Menu button (HP Color LaserJet CM2320 MFP Fax Model only).** Access the e-mail menu. **Start Email button (HP Color LaserJet CM2320 MFP Fax Model only).** Start a scan to e-mail. **Photo Menu button (HP Color LaserJet CM2320 MFP Memory-Card Model only).** Access the photo menu. **Start Photo button (HP Color LaserJet CM2320 MFP Memory-Card Model only).** Print the selected photos from the memory card.

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Control-panel menus

Use the control-panel menus

To gain access to the control-panel menus, use the following steps.

1. Press Setup.

NOTE: To access the function specific menus press Fax Menu Copy Menu Scan Menu or Photo Menu.

2. Use the arrow buttons to navigate the listings.

- Press OK to select the appropriate option.
- Press Cancel to cancel an action or return to the Ready state.

Control-panel Setup menu

These sub menus are available from the control-panel main Setup menu:

- Use the **Copy setup** menu to configure basic copy default settings such as contrast, collation, or the number of copies printed.
- Use the **Reports** menu to print reports that provide information about the product.
- Use the **Fax setup** (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only) menu to configure the fax phone book, the outgoing and incoming fax options, and the basic settings for all faxes.
- Use the **Photo setup** (HP Color LaserJet CM2320 MFP Memory-Card Model only) menu to configure the basic settings for printing photos from a memory card.
- Use the **System setup** menu to establish basic product settings such as language, print quality, or volume levels.
- Use the **Service** menu to restore default settings, clean the product, and activate special modes that affect print output.
- Use the **Network configuration** menu to configure network settings such as TCP/IP configuration.

NOTE: To print a detailed list of the entire control-panel menu and its structure, print a menu map. See Information pages on page 168.

Table 2-1 Copy setup menu

Menu item	Sub-menu item	Description
Default Optimize	**Auto Select**	Sets the default copy quality.
	Mixed	
	Printed Picture	
	Photograph	
	Text	
Default lighter/darker		Sets the default contrast option.

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Table 2-1 Copy setup menu (continued)

Menu item	Sub-menu item	Description
Default Collation	**On**	Sets the default collation option.
	Off	
Default number of copies	(Range: 1-99)	Sets the default number of copies.
Default Reduce/Enlarge	**Original=100%**	Sets the default percentage to reduce or enlarge a copied document.
	Legal to Letter=78%	
	Legal to A4=83%	
	A4 to Letter=94%	
	Letter to A4=97%	
	Full Page=91%	
	Fit to page	
	2 pages per sheet	
	4 pages per sheet	
	Custom: 25 to 400%	
Default Tray Select	**Auto select**	Sets the default input paper tray.
	Tray 1	
	Tray 2	
	Tray 3 (if the tray is installed)	
Default 2-Sided (photo card models only)	**1 to 1 sided**	Sets the default input scan format and the default output format.
	1 to 2 sided	
	2 to 2 sided	
	2 to 1 sided	
Default Copy Draft	**On**	Sets the default draft mode option.
	Off	
Default Multi-page	**On**	Sets the default multi-page flatbed copy option.
	Off	

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Table 2-1 Copy setup menu (continued)

Menu item	Sub-menu item	Description
Advanced	**Color Copy**	Enables or disables the color copy button.
	Lightness	The default light/dark setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value.
	Contrast	The default contrast setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value.
	Sharpen	The default sharpen setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value.
	Background Removal	The default background removal setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value.
	Color Balance	The default color balance setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value. Values can be set for each of the following settings: • **Red** • **Green** • **Blue**
	Grayness	The default grayness setting for copies. Possible values range from 1 to 11 with 6 being the default (no change) value.
Restore defaults		Sets all customized copy settings to the factory default values.

Table 2-2 Reports menu

Menu Item	Sub-menu item	Sub-menu item	Description
Demo page			Prints a page that demonstrates print quality.
Menu structure			Prints a control-panel menu layout map.
Configuration report			Prints a list of all the product settings. Includes network information when the product is connected to the network.
Supplies status page			Prints the print-cartridge status. Includes the following information: • Approximate pages remaining • Serial number • Number of pages printed
Network report			Displays status for: • Network hardware configuration • Enabled features • TCP/IP and SNMP information • Network statistics
Usage page			Displays the number of pages printed, faxed, copied, and scanned by the product.

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Table 2-2 Reports menu (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
PCL font list			Prints a list of all installed PCL 5 fonts.
PS font list			Prints a list of all installed PS fonts.
PCL6 font list			Prints a list of all installed PCL 6 fonts.
Color usage log			Prints out information about the color toner usage
Service page			Prints out diagnostic information about calibration and color quality

Table 2-3 Photo setup menu

Menu Item	Sub-menu item	Sub-menu item	Description
Default image Size	(List of available photo image sizes)		The default image size for photos
Default lighter/ darker			The default light/dark setting for photos. Possible values range from 1 to 11 with 6 being the default (no change) value.
Default number of copies			The default number of copies setting for photos. Possible values range from 1 to 99.
Default output color	**Color** **Black & white**		Specify the default output for photos (color or black & white)
Restore defaults			Restore the factory default settings for photo setup

Table 2-4 Fax setup menu (fax models only)

Menu Item	Sub-menu item	Sub-menu item	Description
Fax Set-up Utility			Utility for configuring the fax settings. Follow the on-screen prompts and select the appropriate response for each question using the arrow keys.

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Table 2-4 Fax setup menu (fax models only) (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
Basic setup	**Time/Date**	(Settings for time format, current time, date format, and current date.)	Sets the time and date setting for the product.
	Fax Header	**Your fax number** **Company name**	Sets the identifying information that is sent to the receiving product.
	Answer mode	**Automatic** **TAM** **Fax/Tel** **Manual**	Sets the type of answer mode. The following options are available: • **Automatic**: The product automatically answers an incoming call on the configured number of rings. • **TAM**: A telephone answering machine (TAM) is attached to the Aux phone port of the product. The product will not pick up any incoming call, but only listen for fax tones after the answering machine has picked up the call. • **Fax/Tel**: The product must automatically pick up the call and determine if the call is a voice or fax call. If the call is a fax call, the product handles the call as usual. If the call is a voice call, an audible synthesized ring is generated to alert the user of an incoming voice call. • **Manual** : The user must press the Start Fax button or use an extension phone to make the product answer the incoming call.
	Rings to answer	(Range of 1-9)	Sets the number of rings that must occur before the fax modem answers.
	Distinctive Ring	**All Rings** **Single** **Double** **Triple** **Double and Triple**	Allows a user to have two or three phone numbers on a single line, each with a different ring pattern (on a phone system with distinctive-ring service). • **All Rings**: The product answers any calls that come through the telephone line. • **Single**: The product answers any calls that produce a single-ring pattern. • **Double**: The product answers any calls that produce a double-ring pattern. • **Triple**: The product answers any calls that produce a triple-ring pattern. • **Double and Triple**: The product answers any calls that produce a double-ring or triple-ring pattern.
	Dial Prefix	**On** **Off**	Specifies a prefix number that must be dialed when sending faxes from the product.

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Table 2-4 Fax setup menu (fax models only) (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
Advanced setup	**Default Fax Resolution**	**Standard** **Fine** **Superfine** **Photo**	Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller.
	Default lighter/ darker		Sets the darkness of outgoing faxes.
	Fit to page	**On** **Off**	Shrinks faxes that are larger than Letter-size or A4-size so that they can fit onto a Letter-size or A4-size page. If this feature is set to **Off**, faxes larger than Letter or A4 will print on multiple pages.
	Default glass size	**Letter** **A4**	Sets the default paper size for documents being scanned from the flatbed scanner.
	Dialing Mode	**Tone** **Pulse**	Sets whether the product should use tone or pulse dialing.
	Redial if busy	**On** **Off**	Sets whether or not the product should attempt to redial if the line is busy.
	Redial if no answer	**On** **Off**	Sets whether the product should attempt to dial if the recipient fax number does not answer.
	Redial Comm. Error	**On** **Off**	Sets whether the product should attempt to redial the recipient fax number if a communication error occurs.

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Table 2-4 Fax setup menu (fax models only) (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
Advanced setup	**Detect dial tone**	**On** **Off**	Sets whether the product should check for a dial tone before sending a fax.
	Billing codes	**On** **Off**	Enables the use of billing codes when set to **On**. A prompt will appear that asks you to enter the billing code for an outgoing fax.
	Extension Phone	**On** **Off**	When this feature is enabled, the user can press the **1-2-3** buttons on the extension phone to cause the product to answer an incoming fax call.
	Stamp faxes	**On** **Off**	Sets product to add the date, time, sender's phone number, and page number to each page of the faxes that this product receives.
	Private receive	**On** **Off**	Setting **Private receive** to **On** requires the user to have set a password in product security. After the password is set, the following options are set: • **Private receive** is turned on. • All old faxes are deleted from memory. • **Fax forwarding** set to **Off** and is not allowed to be changed. • All incoming faxes are stored in memory.
	Fax Number Confirmation	**On** **Off**	Verify that a fax number is valid by entering it a second time.
	Allow Fax Reprint	**On** **Off**	Sets whether all received faxes stored in available memory can be reprinted.
	Fax/Tel Ring Time	**20** **30** **40** **70**	Sets when the product should stop sounding the **Fax/Tel** audible ring to notify the user of an incoming voice call.
	Print Duplex (duplex models only)	**On** **Off**	Sets whether all received faxes are printed using both sides of the paper.
	Fax Speed	**Fast(V.34)** **Medium(V.17)** **Slow(V.29)**	Increases or decreases the allowed fax communication speed.

Table 2-5 System setup menu

Menu Item	Sub-menu item	Sub-menu item	Description
Language	(List of available control-panel display languages.)		Sets the language in which the control panel displays messages and product reports.

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Table 2-5 System setup menu (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
Paper setup	**Default paper size**	**Letter** **A4** **Legal**	Sets the size for printing internal reports or any print job that does not specify a size.
	Default paper type	Lists available media types.	Sets the type for printing internal reports or any print job that does not specify a type.
	Tray 1	**Paper type** **Paper size**	Sets the default size and type for tray 1.
	Paper out action	**Wait forever** **Cancel** **Override**	Determines how the product reacts when a print job requires a media size or type that is unavailable or when a specified tray is empty. • Select **Wait forever** to make the product wait until the correct media is loaded. • Select **Override** to print on a different size paper after a specified delay. • Select **Cancel** to automatically cancel the print job after a specified delay. • If either **Override** or **Cancel** is chosen, the control panel prompts for the number of seconds to delay. Use the arrow keys to either decrease the time or increase the time up to 3600 seconds.
Print quality	**Calibrate Color**	**Calibrate Now** **After Power On**	Perform a Color Pane Registration (CPR) and density calibration. Select **Calibrate Now** to perform an immediate calibration. Select **After Power On** to specify the minutes/ hours the product should wait after power on to perform an automatic calibration (the default is 15 minutes).
	Cartridge low threshold	(Range of 1-20)	Sets the percentage at which the control panel generates a low-toner message.
	Replace supplies	**Stop at Out** **Override out**	Sets how the product reacts when it detects that the print cartridge is out.
	Color supply out	**Stop printing** **Continue black**	Sets how the product should react when it detects that a color cartridge is empty. Select **Stop printing** to stop all printing until the cartridge is replaced, or select **Continue black** to continue printing in black monochrome mode.
Adjust Alignment (photo card models only)	**Print Test Page**		Print out a tray-specific sheet of instructions and a test page with a border that can be used to estimate the adjustment needed to center the printed image on the page.
	Adjust Tray 1		After printing the test page, use the options in the **Adjust Tray 1** menu to calibrate the tray. The following settings can be adjusted for Tray 1: • **X1 Shift** • **Y Shift**

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Table 2-5 System setup menu (continued)

Menu Item	Sub-menu item	Sub-menu item	Description
Volume Settings (photo card models only)	**Alarm volume**	**Soft**	Sets the volume levels for the product.
	Ring volume	**Medium**	
	Key-press volume	**Loud**	
	Phone line volume	**Off**	
Time/Date	(Settings for time format, current time, date format, and current date.)		Sets the time and date setting for the product.
Product security	**On**		Sets the product-security feature. When the setting is set to **On**, you must set a personal identification number (PIN).
	Off		
Courier font	**Regular**		Sets Courier font values.
	Dark		

Table 2-6 Service menu

Menu item	Sub-menu item	Sub-menu item	Description
Fax Service	**Clear saved faxes**		Clear all faxes in memory. These include any received faxes (including non-printed, non-sent PC upload, and non-forwarded faxes), unsent faxes (including delayed faxes), and any printed faxes that are still in memory. Deleted faxes cannot be recovered. For each deleted item, the fax activity log is updated.
	Run Fax Test		Perform a fax test to verify that the phone cord is plugged in the correct outlet and that there is a signal on the phone line. A fax test report is printed indicating the results.
	Print T.30 trace	**Now**	Prints or schedules a report that is used to troubleshoot fax transmission issues.
		Never	
		If error	
		At end of call	
	Error correction	**On**	The error correction mode allows the sending device to re-transmit data if it detects an error signal. The default setting is on.
		Off	
	Fax Service Log		The fax service log prints out the last 40 entries in the fax log.
Cleaning mode			Cleans the product when specks or other marks appear

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Table 2-6 Service menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
			on printed output. The cleaning process removes dust and excess toner from the paper path. When selected, the product prompts you to load plain Letter or A4 paper in tray 1. Press OK to begin the cleaning process. Wait until the process completes. Discard the page that prints.
PowerSave Time	**Off** **1 minute** **15 minutes** **30 minutes** **1 hour** **2 hours** **4 hours**		Specify the amount of idle time before the product enters sleep mode.
USB speed	**High** **Full**		Sets the USB speed.
Less paper curl	**On** **Off**		When printed pages are consistently curled, this option sets the product to a mode that reduces curl. The default setting is **Off**.
Archive print	**On** **Off**		When printing pages that will be stored for a long time, this option sets the product to a mode that reduces toner smearing and dusting. The default setting is **Off**.
Restore defaults			Sets all customized settings to the factory default values.

Table 2-7 Network configuration menu

Menu item	Sub-menu item	Description
TCP/IP configuration	**Automatic** **Manual**	**Automatic** automatically configures all the TCP/IP settings via DHCP, BootP or AutoIP. **Manual** requires you to manually configure the IP address, subnet mask, and default gateway. The control panel prompts you to specify values for each address section. Use the arrow buttons to increase or decrease the value. Press OK to accept the value and move the cursor to the next field.

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Table 2-7 Network configuration menu (continued)

Menu item	Sub-menu item	Description
		As each address is completed, the product prompts for address confirmation before moving to the next one. After all three addresses are set, the product automatically restarts.
Memory Card (memory card products only)	**On** **Off**	Enables or disables the use of the memory card slots.
Auto crossover	**On** **Off**	Enable or disable the use of a standard 10/100 network cable when the product is directly connected to a PC.
Network services	**IPv4** **IPv6** **DHCPv6**	Sets whether the product will use either IPv4, IPv6, or DHCPv6 protocol.
Show IP address	**Yes** **No**	Sets whether the product displays the IP address on the control panel.
Link speed	**Automatic** (Default) **10T Full** **10T Half** **100TX Full** **100TX Half**	Sets the link speed manually if needed. After setting the link speed, the product automatically restarts.
Restore defaults		Resets all network configurations to their factory defaults.

Function specific menus

The product features function-specific menus for faxing, copying, scanning, and managing photos on a memory card. To access these menus, press the Fax Menu Copy Menu Scan Menu or Photo Menu buttons respectively.

These are the features supported by the function specific menus.

- Use the **Fax** menu to perform basic fax functions such as sending a fax or editing the phone book, reprinting faxes that were previously printed, or printing faxes that are stored in memory.
- Use the **Copy** menu to access basic copy functions and customize the copy output.
- Use the **Scan** menu to display a list of preconfigured folders and e-mail destinations to select from.
- Use the **Email** menu (HP Color LaserJet CM2320 MFP Fax Model only) to send e-mail.
- Use the **Photo** menu (HP Color LaserJet CM2320 MFP Memory-Card Model only) to display a list of photo options for a valid inserted memory card.

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Table 2-8 Fax Menu

Menu item	Sub-menu item	Sub-menu item	Description
Send	**Send a fax**		Send a fax. On screen prompts guide the process.
	Redial		Redial the last fax number and resend.
	Send fax later		Allows a fax to be sent at a later time and date.
	Fax Job status		Displays pending fax jobs, and allows you to cancel pending fax jobs.
	Fax Resolution	**Standard** **Fine** **Superfine** **Photo**	Temporarily change the resolution of outgoing faxes. The resolution resets to default after 2 minutes of idle fax scan time.
Receive	**Print faxes**		Prints stored faxes when the private-receive feature is on. This menu item appears only when the private-receive feature is turned on.
	Block junk faxes	**Add number** **Delete number** **Delete All Entries** **Junk Fax list**	Modifies the junk fax list. The junk fax list can contain up to 30 numbers. When the product receives a call from one of the junk fax numbers, it deletes the incoming fax. It also logs the junk fax in the activity log along with job-accounting information.
	Reprint faxes		Prints the received faxes stored in available memory.
	Forward fax	**On** **Off**	Sets product to send all received faxes to another fax machine.
	Polling receive		Allows the product to call another fax machine that has polling send enabled.

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Table 2-8 Fax Menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Phone Book	**Select an entry**		Select an individual or group dial entry for faxing.
	Individual Setup		Edits the fax phone book speed dials and group-dial entries. The product supports up to 120 phone book entries, which can be either individual or group entries.
	Group setup		
	Delete entry	Delete a specific phone book entry.	
	Delete All Entries		Delete all entries in the phone book
	Phone Book report		Print a list of all the individual and group dial entries in the phone book.

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Table 2-8 Fax Menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Fax Reports	**Fax Confirmation**	**Never** **Every fax** **Send fax only** **Receive fax**	Sets whether or not the product prints a confirmation report after a successful sending or receiving job.
	Include first page	**On** **Off**	Sets whether or not the product includes a thumbnail image of the first page of the fax on the report.
	Fax Error Report	**Every error** **Send Error** **Receive Error** **Never**	Sets whether or not the product prints a report after a failed sending or receiving job.
	Last Call Report		Prints a detailed report of the last fax operation, either sent or received.
	Fax Activity log	**Print log now** **Auto Log Print**	**Print log now**: Prints a list of the faxes that have been sent from or received by this product. **Auto Log Print**: Select **On** to automatically print a report after every fax job. Select **Off** to turn off the automatic print feature.
	Phone Book report		Prints a list of the speed dials that have been set up for this product.
	Junk Fax list		Prints a list of phone numbers that are blocked from sending faxes to this product.
	Billing report		Prints a list of billing codes that have been used for outgoing faxes. This report shows how many sent faxes were billed to each code. This menu item appears only when the billing codes feature is turned on.
	All fax reports		Prints all fax-related reports.

Table 2-9 Photo Menu

Menu item	Sub-menu item	Sub-menu item	Description
View			View photos on the memory card. Use the arrow buttons to navigate through the photos.

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Table 2-9 Photo Menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Easy Print	**Individual photo** **All photos (#-#)** **A range of photos** **Custom**		Print photos quickly from the memory card by selecting the numbers of the photos you want to print.
Thumbnail	**Fast** **Best**		Print thumbnails of photos from the memory card (30 per page).
Options	**Proof Sheet**	**Print proof sheet** **Scan proof sheet**	Print a proof sheet or scan a proof sheet. The proof sheet is a page of thumbnails (20 per page) generated from a valid memory card. A marked proof sheet can then be scanned and the selected images are printed at full size.
	Current Settings	**Select image size** **Select paper size** **Select paper type** **Number of copies** **Output Color**	Adjust the default photo settings for image size, paper size, paper type, number of copies, and output color (color or black & white).
	Rotate Photo		Rotate a photo stored on a memory card.
	Slideshow		View a slideshow of the photos on a memory card.

Table 2-10 Copy Menu

Menu item	Sub-menu item	Sub-menu item	Description
Copies	**(1–99)**		Specify the number of copies
Size	**Original=100%** **Legal to Letter=78%** **Legal to A4=83%** **A4 to Letter=94%** **Letter to A4=97%** **Full Page=91%** **Fit to page** **2 pages per sheet** **4 pages per sheet** **Custom: 25 to 400%**		Specify the size of the copy.

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Table 2-10 Copy Menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Light/Dark			Specify the contrast of the copy.
Options	**Optimize**		Select settings to optimize the copy print quality.
	Copy Paper		Specify the paper type for the copies.
	Multi-Page Copy		Copy multiple pages.
	Copy Collation		Specify the copy collation
	Tray Select		Select the tray to copy from.
	Copy 2-Sided		Copy multiple sides and print duplex.
Copy Draft		Specify the print quality for copies.	
Image Adjustment	**Lightness**	Adjust the settings for image quality in a copy.	
	Contrast		
	Sharpen		
	Background		
	Color Balance		
	Grayness		

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3 Software for Windows

- Supported operating systems for Windows
- Supported printer drivers for Windows
- HP Universal Print Driver (UPD)
- Select the correct printer driver for Windows
- Priority for print settings
- Change printer-driver settings for Windows
- Software installation types for Windows
- Remove software for Windows
- Supported utilities for Windows
- Software for other operating systems

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Supported operating systems for Windows

The product supports the following Windows operating systems:

Full software installation

- Windows XP (32-bit)
- Windows Vista (32-bit and 64-bit)

Print and scan driver

- Windows XP (64 bit)
- Windows 2000
- Windows 2003 Server (32-bit and 64-bit)

Supported printer drivers for Windows

NOTE: The PCL 5 UPD and HP postscript level 3 emulation drivers are only available on the HP support website: www.hp.com/support/LJCM2320

- PCL 5 UPD
- PCL 6
- HP postscript level 3 emulation

The printer drivers include online Help that has instructions for common printing tasks and also describes the buttons, checkboxes, and drop-down lists that are in the printer driver.

NOTE: The version of PCL 5 that is used in this product is identical to the version of PCL 5 that is used in the HP Universal Print Driver (UPD) for Windows. It installs and operates in the same manner as previous versions of PCL 5, and it does not require any special configuration.

For more information about the UPD, see www.hp.com/go/upd.

HP Universal Print Driver (UPD)

The HP Universal Print Driver (UPD) for Windows is a single driver that gives you instant access to virtually any HP LaserJet product, from any location, without downloading separate drivers. It is built on proven HP print driver technology and has been tested thoroughly and used with many software programs. It is a powerful solution that performs consistently over time.

The HP UPD communicates directly with each HP product, gathers configuration information, and then customizes the user interface to show the product's unique, available features. It automatically enables features that are available for the product, such as two-sided printing and stapling, so you do not need to enable them manually.

For more information, go to www.hp.com/go/upd.

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UPD installation modes

Traditional mode	• Use this mode if you are installing the driver from a CD for a single computer. • When installed with this mode, UPD operates like traditional printer drivers. • If you use this mode, you must install UPD separately for each computer.
Dynamic mode	• Use this mode if you are installing the driver for a mobile computer, so you can discover and print to HP products in any location. • Use this mode if you are installing UPD for a workgroup. • To use this mode, download UPD from the Internet. See www.hp.com/go/upd.

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Select the correct printer driver for Windows

Printer drivers allow you to gain access to the device features and allow the computer to communicate with the device (using a printer language). Check the installation notes and readme files on the device CD for additional software and languages.

- Use the PCL 6 printer driver for the best overall performance.
- Use the HP PS Universal driver for printing from postscript level 2 emulation needs, or for postscript flash font support.

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Priority for print settings

Changes to print settings are prioritized depending on where the changes are made:

NOTE: The names of commands and dialog boxes might vary depending on your software program.

- **Page Setup dialog box**: Click **Page Setup** or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed here override settings changed anywhere else.
- **Print dialog box**: Click **Print**, **Print Setup**, or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed in the **Print** dialog box have a lower priority and do *not* override changes made in the **Page Setup** dialog box.
- **Printer Properties dialog box (printer driver)**: Click **Properties** in the **Print** dialog box to open the printer driver. Settings changed in the **Printer Properties** dialog box do not override settings anywhere else in the printing software.
- **Default printer driver settings**: The default printer driver settings determine the settings used in all print jobs, *unless* settings are changed in the **Page Setup**, **Print**, or **Printer Properties** dialog boxes.
- **Printer control panel settings**: Settings changed at the printer control panel have a lower priority than changes made anywhere else.

Change printer-driver settings for Windows

To change the settings for all print jobs until the software program is closed	To change the default settings for all print jobs	To change the device configuration settings
1. On the **File** menu in the software program, click **Print**. 2. Select the driver, and then click **Properties** or **Preferences**. The steps can vary; this procedure is most common.	1. Click **Start**, click **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home). For Windows Vista, click **Start**, click **Control Panel**, and then click **Printer**. 2. Right-click the driver icon, and then select **Printing Preferences**.	1. Click **Start**, click **Settings**, and then click **Printers** (Windows 2000) or **Printers and Faxes** (Windows XP Professional and Server 2003) or **Printers and Other Hardware Devices** (Windows XP Home). For Windows Vista, click **Start**, click **Control Panel**, and then click **Printer**. 2. Right-click the driver icon, and then select **Properties**. 3. Click the **Device Settings** tab.

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Software installation types for Windows

The following software installation types are available:

- **Recommended**. Installs the full software solution.
- **Express**. Installs the print and scan drivers only. There is an express option for USB-connected products and another express option for network-connected products.

Remove software for Windows

1. Click **Start**, and then click **All Programs**.
2. Click **HP**, and then click **HP Color LaserJet CM2320 MFP Series**.
3. Click **Uninstall HP Color LaserJet CM2320 MFP Series**, and then follow the onscreen instructions to remove the software.

Supported utilities for Windows

HP ToolboxFX

The HP ToolboxFX is a program that you can use for the following tasks:

- Checking the device status
- Checking the supplies status
- Setting up alerts
- Viewing device documentation
- Gaining access to troubleshooting and maintenance tools

HP ToolboxFX is installed during the Recommended software installation from the product CD-ROM.

For more information, see View the HP ToolboxFX on page 170.

Embedded Web server

The device is equipped with an embedded Web server, which provides access to information about device and network activities. This information appears in a Web browser, such as Microsoft Internet Explorer, Netscape Navigator, Apple Safari, or Firefox.

The embedded Web server resides on the device. It is not loaded on a network server.

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, type the IP address for the device in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see Information pages on page 168.)

For a complete explanation of the features and functionality of the embedded Web server, see Embedded Web server on page 180.

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HP Web Jetadmin

HP Web Jetadmin is a browser-based management tool for network-connected printers within an intranet, and it should be installed only on the network administrator's computer.

To download a current version of HP Web Jetadmin and for the latest list of supported host systems, visit www.hp.com/go/webjetadmin.

When installed on a host server, a Windows client can gain access to HP Web Jetadmin by using a supported Web browser (such as Microsoft® Internet Explorer 4.x or Netscape Navigator 4.x or later) by navigating to the HP Web Jetadmin host.

Other Windows components and utilities

- Software installer — automates the printing system installation
- Online Web registration
- HP Customer Participation Program
- HP Update
- Photosmart Essential
- HP Solution Center
- HP LaserJet Scan program and driver

Software for other operating systems

OS	Software
UNIX	For HP-UX and Solaris networks, go to www.hp.com/support/net_printing to download the HP Jetdirect printer installer for UNIX.
Linux	For information, go to www.hp.com/go/linuxprinting.

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4 Use the product with Macintosh

- Software for Macintosh
- Use features in the Macintosh printer driver

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Software for Macintosh

Supported operating systems for Macintosh

The device supports the following Macintosh operating systems:

- Mac OS X v10.3, v10.4 and later

NOTE: For Mac OS v10.4 and later, PPC and Intel Core Processor Macs are supported.

Supported printer drivers for Macintosh

The HP installer provides PostScript® Printer Description (PPD) files and Printer Dialog Extensions (PDEs).

The PPDs, in combination with the Apple PostScript printer drivers, provide access to device features. Use the Apple PostScript printer driver that comes with the computer.

Priority for print settings for Macintosh

Changes to print settings are prioritized depending on where the changes are made:

NOTE: The names of commands and dialog boxes might vary depending on your software program.

- **Page Setup dialog box**: Click **Page Setup** or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed here override settings changed anywhere else.
- **Print dialog box**: Click **Print**, **Print Setup**, or a similar command on the **File** menu of the program you are working in to open this dialog box. Settings changed in the **Print** dialog box have a lower priority and do *not* override changes made in the **Page Setup** dialog box.
- **Printer Properties dialog box (printer driver)**: Click **Properties** in the **Print** dialog box to open the printer driver. Settings changed in the **Printer Properties** dialog box do not override settings anywhere else in the printing software.
- **Default printer driver settings**: The default printer driver settings determine the settings used in all print jobs, *unless* settings are changed in the **Page Setup**, **Print**, or **Printer Properties** dialog boxes.
- **Printer control panel settings**: Settings changed at the printer control panel have a lower priority than changes made anywhere else.

Change printer-driver settings for Macintosh

To change the settings for all print jobs until the software program is closed	To change the default settings for all print jobs	To change the device configuration settings
1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus.	1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus. 3. On the **Presets** pop-up menu, click **Save as** and type a name for the preset.	1. In the Finder, on the **Go** menu, click **Applications**. 2. Open **Utilities**, and then open **Printer Setup Utility**. 3. Click on the print queue.

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To change the settings for all print jobs until the software program is closed	To change the default settings for all print jobs	To change the device configuration settings
	These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time you open a program and print.	4. On the **Printers** menu, click **Show Info**. 5. Click the **Installable Options** menu. **NOTE:** Configuration settings might not be available in Classic mode.

Software installation types for Macintosh

Install Macintosh software for direct connections (USB)

1. Insert the device CD into the CD-ROM drive and run the installer. If the CD menu does not run automatically, double-click the CD icon on the desktop.
2. Connect a USB cable between the device USB port and the computer USB port. Use a standard 2-meter (6.56-foot) USB cable.
3. Double-click the **Installer** icon in the HP LaserJet Installer folder.
4. Follow the instructions on the computer screen.

   USB printer queues are created automatically when the device is attached to the computer. However, the queue will use a generic PPD if the installer has not been run before the USB cable is connected. Complete the following steps to change the queue PPD.

Install Macintosh software for networks

1. Connect the network cable between the device and a network port.
2. Insert the CD into the CD-ROM drive. If the CD does not run automatically, double-click the CD icon on the desktop.
3. Double-click the **Installer** icon in the HP LaserJet Installer folder.
4. Follow the instructions on the computer screen.

Remove software from Macintosh operating systems

1. To remove the software from a Macintosh computer, drag the PPD files to the trash can.
2. Run the uninstaller from the HP product folder.

Supported utilities for Macintosh

Embedded Web server

The device is equipped with an embedded Web server, which provides access to information about device and network activities. This information appears in a Web browser, such as Netscape Navigator, Apple Safari, or Firefox.

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The embedded Web server resides on the device. It is available on network and direct-connected devices.

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, click **Maintain Device** in HP Director.

For a complete explanation of the features and functionality of the embedded Web server, see Embedded Web server on page 180.

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Use features in the Macintosh printer driver

Print

Create and use printing presets in Macintosh

Use printing presets to save the current printer driver settings for reuse.

Create a printing preset

1. On the **File** menu, click **Print**.
2. Select the driver.
3. Select the print settings.
4. In the **Presets** box, click **Save As...**, and type a name for the preset.
5. Click **OK**.

Use printing presets

1. On the **File** menu, click **Print**.
2. Select the driver.
3. In the **Presets** box, select the printing preset that you want to use.

NOTE: To use printer-driver default settings, select **Factory Default**.

Resize documents or print on a custom paper size

You can scale a document to fit on a different size of paper.

1. On the **File** menu, click **Print**.
2. Open the **Paper Handling** menu.
3. In the area for **Destination Paper Size**, select **Scale to fit paper size**, and then select the size from the drop-down list.
4. If you want to use only paper that is smaller than the document, select **Scale down only**.

Print a cover page

You can print a separate cover page for your document that includes a message (such as “Confidential”).

1. On the **File** menu, click **Print**.
2. Select the driver.
3. Open the **Cover Page** pop-up menu, and then select whether to print the cover page **Before Document** or **After Document**.
4. In the **Cover Page Type** pop-up menu, select the message that you want to print on the cover page.

NOTE: To print a blank cover page, select **Standard** as the **Cover Page Type**.

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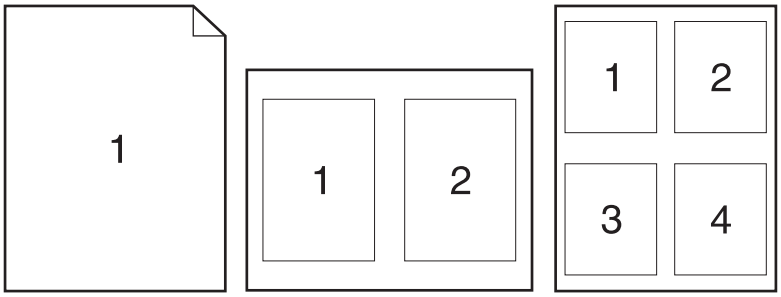
Use watermarks

A watermark is a notice, such as “Confidential,” that is printed in the background of each page of a document.

1. On the **File** menu, click **Print**.
2. Open the **Watermarks** menu.
3. Next to **Mode**, select the type of watermark to use. Select **Watermark** to print a semi-transparent message. Select **Overlay** to print a message that is not transparent.
4. Next to **Pages**, select whether to print the watermark on all pages or on the first page only.
5. Next to **Text**, select one of the standard messages, or select **Custom** and type a new message in the box.
6. Select options for the remaining settings.

Print multiple pages on one sheet of paper in Macintosh

You can print more than one page on a single sheet of paper. This feature provides a cost-effective way to print draft pages.



1. On the **File** menu, click **Print**.
2. Select the driver.
3. Open the **Layout** pop-up menu.
4. Next to **Pages per Sheet**, select the number of pages that you want to print on each sheet (1, 2, 4, 6, 9, or 16).
5. Next to **Layout Direction**, select the order and placement of the pages on the sheet.
6. Next to **Borders**, select the type of border to print around each page on the sheet.

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Print on both sides of the page (duplex printing)

Use automatic duplex printing

1. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:
   - For tray 1, load the letterhead paper face-up with the bottom edge feeding into the printer first.
   - For all other trays, load the letterhead paper face-up with the top edge at the back of the tray.

△ **CAUTION:** To avoid jams when duplexing, only load paper that is from 60 g/m^2 to 163 g/m^2.

2. On the **File** menu, click **Print**.
3. Open the **Layout** pop-up menu.
4. Next to **Two-Sided**, select either **Long-Edge Binding** or **Short-Edge Binding**.
5. Click **Print**.

Print on both sides manually

1. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:
   - For tray 1, load the letterhead paper face-up with the bottom edge feeding into the printer first.
   - For all other trays, load the letterhead paper face-up with the top edge at the back of the tray.

△ **CAUTION:** To avoid jams when duplexing, only load paper that is from 60 g/m^2 to 163 g/m^2.

2. On the **File** menu, click **Print**.
3. On the **Finishing** pop-up menu, select **Manual Duplex**.
4. Click **OK**.
5. Click **Print**. Follow the instructions in the pop-up window that appears on the computer screen before replacing the output stack in the tray for printing the second half.
6. If prompted, press the appropriate control-panel button to continue.

Use the Services menu

If the device is connected to a network, use the **Services** menu to obtain device and supply-status information.

1. On the **File** menu, click **Print**.
2. Open the **Services** menu.
3. Select a maintenance task from the drop-down list, and then click **Launch**. The embedded Web server opens to the page that provides the information for the task that you selected.
4. To go to various support Web sites for this device, select an Internet Services option from the drop-down list, and then click **Go!**.

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Scan

For more information about tasks and settings described in this section, see the HP Director online Help.

Scanning tasks

To scan to a software program, scan an item using the program itself. Any TWAIN-compliant program can scan an image. If the program is not TWAIN-compliant, save the scanned image to a file then place, open, or import the file in the software program.

Use page-by-page scanning

1. Lift the flatbed scanner lid and load the original that is to be scanned face-down on the flatbed scanner with the upper-left corner of the document at the lower-right corner of the glass. Gently close the lid.
2. Double-click the HP Director desktop alias.
3. Click the HP Director, and then click **Scan** to open the **HP** dialog box.
4. Click **Scan**.
5. To scan multiple pages, load the next page and click **Scan**. Repeat until all pages are scanned.
6. Click **Finish**, and then click **Destinations**.

Scan from ADF

1. Load the pages face up in the ADF with the top edge first.
2. In HP Director click **Scan** to open the HP dialog box.
3. Click **Scan first** or **Scan all**.
4. Click **Finish** and then select the scan destinations.

Scan to file

1. In **Destinations**, choose **Save To File(s)**.
2. Name the file and specify the destination location.
3. Click **Save**. The original is scanned and saved.

Scan to e-mail

1. In **Destinations**, choose **E-mail**.
2. A blank e-mail opens with the scanned document as an attachment.
3. Enter an e-mail recipient, add text, or other attachments, then click **Send**.

Fax (HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model only)

1. In the software program, on the **File** menu, select **Print**.
2. Click **PDF**, and then select **Fax PDF**.
3. Enter a fax number in the **To** field.

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4. To include a fax cover page, select **Use Cover Page**, and then enter the cover page subject and message (optional).

5. Click **Fax**.

Photo

In HP Director, click the **Photo** icon to launch the Photosmart Essential software. Use the software to import photos from a memory card, edit photos, and print photos from the PC.

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5 Connectivity

- Supported network operating systems
- USB connection
- Printer sharing disclaimer
- Supported network protocols
- Install the product on a network
- Configure the network product

NOTE: Configuring TCP/IP settings is complicated and should be performed only by experienced network administrators. BOOTP will require a server to configure specific TCP/IP settings for the product. DHCP will also require a server, but the TCP/IP settings will not be fixed for the product. Finally, the manual method to configure specific TCP/IP settings can be done from the control panel, the embedded Web server, HP ToolboxFX, or HP Web Jetadmin. For additional help or network configuration, contact your network provider.

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Supported network operating systems

The following operating systems support network printing:

Full software installation	Print and scan driver	Printer driver only
• Windows XP (32-bit and 64-bit) • Windows Vista (32-bit and 64-bit) • Mac OS X v10.3, v10.4, and later	• Windows 2000 • Windows 2003 Server (32-bit and 64-bit)	• Linux (Web only) • UNIX model scripts (Web only)

USB connection

NOTE: Do *not* connect the USB cable before installing the software. The installation program will notify you when the USB cable should be connected.

This product supports a USB 2.0 connection. You must use an A-to-B type USB cable for printing.

1. Insert the product CD into your computer. If the software installer does not start, navigate to the setup.exe file on the CD and double-click the file.
2. Follow the installer instructions.
3. Allow the installation process to complete, and then restart the computer.

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Printer sharing disclaimer

HP does not support peer-to-peer networking, as the feature is a function of Microsoft operating systems and not of the HP printer drivers. Go to Microsoft at www.microsoft.com.

Supported network protocols

The product supports the TCP/IP network protocol. It is the most widely used and accepted networking protocol. Many networking services utilize this protocol. This product also supports IPv4 and IPv6. The following tables list the networking services/protocols that are supported on the product.

Table 5-1 Printing

Service name	Description
port9100 (Direct Mode)	Printing service
Line printer daemon (LPD)	Printing service

Table 5-2 Network product discovery

Service name	Description
SLP (Service Location Protocol)	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Microsoft-based software programs.
mDNS (multicast Domain Name Service - also known as “Rendezvous” or “Bonjour”)	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Apple Macintosh-based software programs.
ws-discover	Used by Microsoft-based software programs
LLMNR	Used when DNS services are not available

Table 5-3 Messaging and management

Service name	Description
HTTP (hypertext transfer protocol)	Allows Web browsers to communicate with embedded Web server.
EWS (embedded Web server)	Allows a user to manage the product through a Web browser.
SNMP (simple network management protocol)	Used by network programs for product management. SNMP V1 and standard MIB-II (Management Information Base) objects are supported.

Table 5-4 IP addressing

Service name	Description
DHCP (dynamic host configuration protocol), IPv4, and IPv6	For Automatic IP address assignment. DHCP server provides the product with an IP address. Generally requires no user intervention for product to obtain IP address from a DHCP server.

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Table 5-4 IP addressing (continued)

Service name	Description
BOOTP (bootstrap protocol)	For Automatic IP address assignment. BOOTP server provides the product with an IP address. Requires administrator to input the product MAC hardware address on BOOTP server in order for product to obtain an IP address from that server.
Auto IP	For Automatic IP address assignment. If neither a DHCP server nor a BOOTP server is present, this service allows the product to generate a unique IP address.

Install the product on a network

In this configuration, the product is connected directly to the network and can be configured to allow all computers on the network to print directly to the product.

NOTE: This mode is the recommended network configuration for the product.

1. Before turning on the product, connect the product directly to the network by inserting a network cable into the product network port.
2. Turn on the product, wait 2 minutes, and then use the control panel to print a configuration page. .

   NOTE: Make sure that an IP address is listed on the configuration page before proceeding to the next step. If an IP address is not present, reprint the configuration page.
3. Insert the product CD into the computer. If the software installer does not start, navigate to the setup.exe file on the CD and double-click the file.
4. Follow the installer instructions.

   NOTE: When the installer prompts for a network address, provide the IP address listed on the configuration page that you printed before starting the installer program, or search for the product on the network.
5. Allow the installation process to complete, and then restart the computer.

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Configure the network product

View settings

Network configuration page

The network configuration page lists the current settings and properties of the product network card. To print the network configuration page from the product, complete the following steps.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Network report**, and then press OK.

Configuration page

The configuration page lists the current settings and properties of the product. You can print a configuration page from the product or HP ToolboxFX. To print the configuration page from the product, complete the following steps.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Config report**, and then press OK.

A second page also prints. On that page, the **Fax Settings** and **Imaging Settings** sections provide details about the product fax settings.

Change settings

You can use the embedded Web server (EWS) or HP ToolboxFX to view or change the IP configuration settings. To gain access to the embedded Web server, type the product IP address in the address line of a Web browser.

You can view HP ToolboxFX when the product is directly connected to a computer or when it is connected to the network. You must perform a complete software installation to use HP ToolboxFX.

Open HP ToolboxFX in one of these ways:

- In the Windows system tray, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click the product name, and then click **HP ToolboxFX**.

In HP ToolboxFX, click the **Network Settings** tab.

From the **Networking** tab (EWS) or the **Network Settings** tab (HP ToolboxFX), you can change the following configurations:

- Host Name
- Manual IP Address
- Manual Subnet Mask
- Manual Default Gateway

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NOTE: Changing the network configuration might require you to change the browser URL before you can communicate with the product again. The product will be unavailable for a few seconds while the network resets.

Set password

See Turn on password protection from the control panel on page 181 for information on how to set the product passwordl.

IP address

The product IP address can be set manually, or it can be configured automatically via DHCP, BootP, or AutoIP.

Manual configuration

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Network configuration**, and then press OK.
3. Use the arrow buttons to select **TCP/IP config**, and then press OK.
4. Use the arrow buttons to select **Manual**, and then press OK.
5. Use the alphanumeric buttons to type the IP address, and then press OK.
6. If the IP address is incorrect, use the arrow buttons to select **No**, and then press OK. Repeat step 5 with the correct IP address, and then repeat step 5 for the subnet mask and default gateway settings.

Automatic configuration

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Network configuration**, and then press OK.
3. Use the arrow buttons to select **TCP/IP config**, and then press OK.
4. Use the arrow buttons to select **Automatic**, and then press OK.

   It may take several minutes before the automatic IP address is ready for use.

NOTE: If you want to disable or enable specific automatic IP modes (such as BOOTP, DHCP, or AutoIP), these settings can be changed by using the embedded Web server or HP ToolboxFX only.

Display the IP address on the control panel

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Network configuration**, and then press OK.
3. Use the arrow buttons to select **Show IP address**, and then press OK.

NOTE: You can also view the IP address in the EWS or HP ToolboxFX by selecting the **Advanced Network Settings** tab.

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IPv4 and IPv6 settings

Only the IPv4 protocol can be configured manually. The IPv4 protocol can be set from HP ToolboxFX or from the product control panel. The IPv6 protocol can be selected only from the product control panel.

Link speed setting

NOTE: Incorrect changes to the link speed setting might prevent the product from communicating with other network devices. For most situations, the product should be left in automatic mode. Changes can cause the product to power cycle. Changes should be made only while the product is idle.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Network configuration**, and then press OK.
3. Use the arrow buttons to select **Link speed**, and then press OK.
4. Use the arrow buttons to select one of the following settings.
   - Automatic
   - 10T Full
   - 10T Half
   - 100TX Full
   - 100TX Half

   NOTE: The setting must match with the network product to which you are connecting (a network hub, switch, gateway, router, or computer).
5. Press OK. The product will power cycle.

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6 Paper and print media

- Understand paper and print media use
- Supported paper and print media sizes
- Supported paper types and tray capacity
- Special paper or print media guidelines
- Load paper and print media
- Configure trays

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Understand paper and print media use

This product supports a variety of paper and other print media in accordance with the guidelines in this user guide. Paper or print media that does not meet these guidelines might cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the product, requiring repair

For best results, use only HP-brand paper and print media designed for laser printers or multiuse. Do not use paper or print media made for inkjet printers. Hewlett-Packard Company cannot recommend the use of other brands of media because HP cannot control their quality.

It is possible for paper to meet all of the guidelines in this user guide and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and/or humidity levels, or other variables over which Hewlett-Packard has no control.

△ **CAUTION:** Using paper or print media that does not meet Hewlett-Packard's specifications might cause problems for the product, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

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Supported paper and print media sizes

This product supports a number of paper sizes, and it adapts to various media.

NOTE: To obtain best print results, select the appropriate paper size and type in the print driver before printing.

Table 6-1 Supported paper and print media sizes

Size	Dimensions	Tray 1	Trays 2 and 3
Letter	216 x 279 mm (8.5 x 11 inches)	✔	✔
Legal	216 x 356 mm (8.5 x 14 inches)	✔	✔
A4	210 x 297 mm (8.27 x 11.69 inches)	✔	✔
Executive	184 x 267 mm (7.24 x 10.51 inches)	✔	✔
A3	297 x 420 mm (11.69 x 16.54 inches)		
A5	148 x 210 mm (5.83 x 8.27 inches)	✔	✔
A6	105 x 148 mm (4.13 x 5.83 inches)	✔	✔
B5 (JIS)	182 x 257 mm (7.17 x 10.12 inches)	✔	✔
16k	197 x 273 mm (7.75 x 10.75 inches)	✔	
16k	195 x 270 mm (7.7 x 10.6 inches)	✔	
16k	184 x 260 mm (7.25 x 10.25 inches)	✔	✔
8.5 x 13	216 x 330 mm (8.5 x 13 inches)	✔	✔
4 x 6[1]	107 x 152 mm (4 x 6 inches)	✔	✔
5 x 8[1]	127 x 203 mm (5 x 8 inches)	✔	✔
10 x 15 cm[1]	100 x 150 mm (3.9 x 5.9 inches)	✔	✔
Custom	**Tray 1**: Minimum—76 x127 mm (3 x 5 inches); Maximum—216 x 356 mm (8.5 x 14 inches)	✔	
	Trays 2 and 3: Minimum—100 x 148 mm (3.9 x 5.83 inches); Maximum—216 x 356 mm (8.5 x 14 inches)		✔

[1] These sizes are supported as custom sizes.

Table 6-2 Supported envelopes and postcards

Size	Dimensions	Tray 1	Trays 2 and 3
Envelope #10	105 x 241 mm (4.13 x 9.49 inches)	✔	✔

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Table 6-2 Supported envelopes and postcards (continued)

Size	Dimensions	Tray 1	Trays 2 and 3
Envelope DL	110 x 220 mm (4.33 x 8.66 inches)	✔	✔
Envelope C5	162 x 229 mm (6.93 x 9.84 inches)	✔	✔
Envelope B5	176 x 250 mm (6.7 x 9.8 inches)	✔	✔
Envelope Monarch	98 x 191 mm (3.9 x 7.5 inches)	✔	✔
Postcard	100 x 148 mm (3.94 x 5.83 inches)	✔	✔
Double postcard	148 x 200 mm (5.83 x 7.87 inches)	✔	✔

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Supported paper types and tray capacity

Media type	Dimensions[1]	Weight	Capacity[2]	Paper orientation
Paper, including the following types: • Plain • Letterhead • Color • Preprinted • Prepunched • Recycled	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)	60 to 90 g/m^2 (16 to 24 lb)	Tray 1: up to 50 sheets Trays 2 and 3: up to 250 sheets of 75 g/m^2 (20 lb bond)	Side to be printed on face-up, with the top edge at the back of the tray
Thick paper	Same as for paper	Up to 200 g/m^2 (53 lb)	Tray 1: single sheet only Trays 2 and 3: up to 25 mm (0.98 inch) stack height	Side to be printed on face-up, with the top edge at the back of the tray
Cover paper	Same as for paper	Up to 200 g/m^2 (53 lb)	Tray 1: single sheet only Trays 2 and 3: up to 25 mm (.98 inch) stack height	Side to be printed on face-up, with the top edge at the back of the tray
Glossy paper Photo paper	Same as for paper	Up to 220 g/m^2 (59 lb)	Tray 1: single sheet only Trays 2 and 3: up to 25 mm (.98 inch) stack height	Side to be printed on face-up, with the top edge at the back of the tray
Transparencies	A4 or Letter	Thickness: 0.12 to 0.13 mm (4.7 to 5.1 mils)	Tray 1: single sheet only Trays 2 and 3: up to 25 mm (.98 inch) stack height	Side to be printed on face-up, with the top edge at the back of the tray
Labels[3]	A4 or Letter	Thickness: up to 0.23 mm (9 mils)	Tray 1: single sheet only Trays 2 and 3: up to 25 mm (.98 inch) stack height	Side to be printed on face-up, with the top edge at the back of the tray
Envelopes	• COM 10 • Monarch • DL • C5 • B5	Up to 90 g/m^2 (24 lb)	Tray 1: up to 10 envelopes Trays 2 and 3: up to 30 envelopes	Side to be printed on face-up, with the stamp-end at the back of the tray
Postcards or index cards	100 x 148 mm (3.9 x 5.8 inches)		Tray 1: single sheet only	Side to be printed on face-up, with the top edge at the back of the tray

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Media type	Dimensions[1]	Weight	Capacity[2]	Paper orientation
			Trays 2 and 3: up to 25 mm (.98 inch) stack height	

[1] The product supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

[2] Capacity can vary depending on media weight and thickness, and environmental conditions.

[3] Smoothness: 100 to 250 (Sheffield)

Special paper or print media guidelines

This product supports printing on special media. Use the following guidelines to obtain satisfactory results. When using special paper or print media, be sure to set the type and size in your print driver to obtain the best print results.

△ **CAUTION:** HP LaserJet printers use fusers to bond dry toner particles to the paper in very precise dots. HP laser paper is designed to withstand this extreme heat. Using inkjet paper not designed for this technology could damage your printer.

Media type	Do	Do not
Envelopes	• Store envelopes flat. • Use envelopes where the seam extends all the way to the corner of the envelope. • Use peel-off adhesive strips that are approved for use in laser printers.	• Do not use envelopes that are wrinkled, nicked, stuck together, or otherwise damaged. • Do not use envelopes that have clasps, snaps, windows, or coated linings. • Do not use self-stick adhesives or other synthetic materials.
Labels	• Use only labels that have no exposed backing between them. • Use Labels that lie flat. • Use only full sheets of labels.	• Do not use labels that have wrinkles or bubbles, or are damaged. • Do not print partial sheets of labels.
Transparencies	• Use only transparencies that are approved for use in laser printers. • Place transparencies on a flat surface after removing them from the product.	• Do not use transparent print media not approved for laser printers.
Letterhead or preprinted forms	• Use only letterhead or forms approved for use in laser printers.	• Do not use raised or metallic letterhead.
Heavy paper	• Use only heavy paper that is approved for use in laser printers and meets the weight specifications for this product.	• Do not use paper that is heavier than the recommended media specification for this product unless it is HP paper that has been approved for use in this product.
Glossy or coated paper	• Use only glossy or coated paper that is approved for use in laser printers.	• Do not use glossy or coated paper designed for use in inkjet products.

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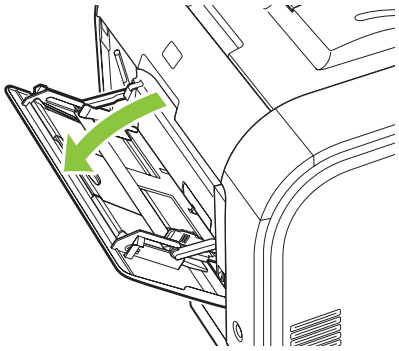
Load paper and print media

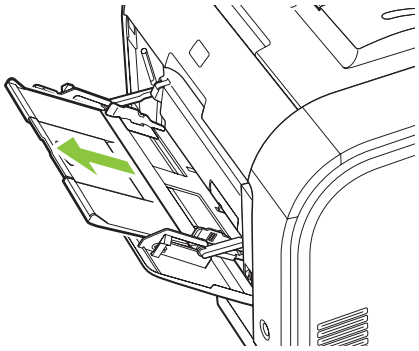
Tray 1

Tray 1 holds up to 50 sheets of 75 g/m^2 (20 lb) media or five envelopes, ten transparencies, or ten cards. You can use tray 1 to print the first page on media different from the remainder of the document.

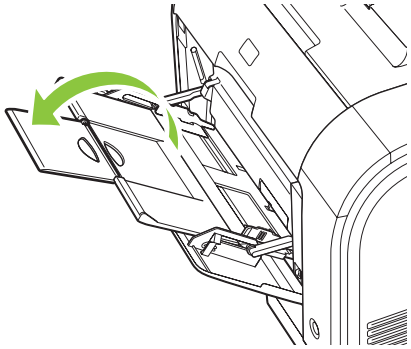
1. Open tray 1.



2. If loading long sheets of media, pull out the extension tray.



3. If necessary, flip out the extension.



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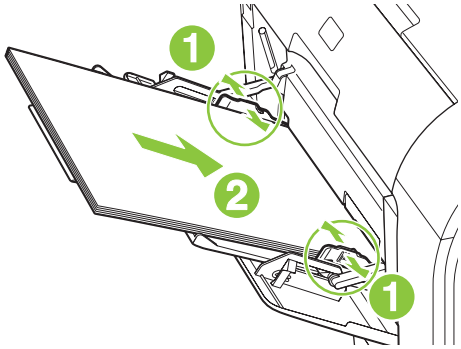
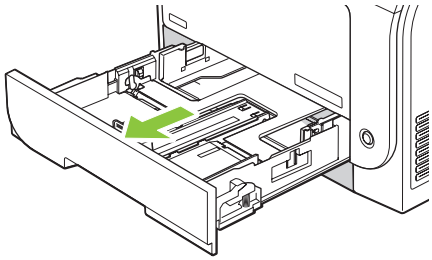
4. Extend the paper guides fully (callout 1) and then load the media stack into tray 1 (callout 2). Adjust the paper guides to the size of the paper.



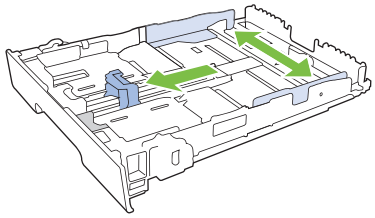
Tray 2 or 3

Tray 2 and optional tray 3 hold up to 250 pages of 75 g/m^2 (20 lb) paper, or fewer pages of heavier media (25 mm (0.9 in) or less stack height). Load media with the top forward and the side to be printed on facing up.

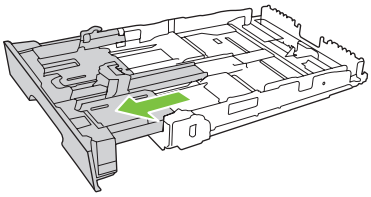
1. Pull the tray out of the product.



2. Slide open the paper length and width guides.



- To load Legal-size paper, extend the tray by pressing and holding the extension tab while pulling the front of the tray toward you.



NOTE: When it is loaded with Legal-size paper, the tray extends from the front of the product approximately 64 mm (2.5 inches).

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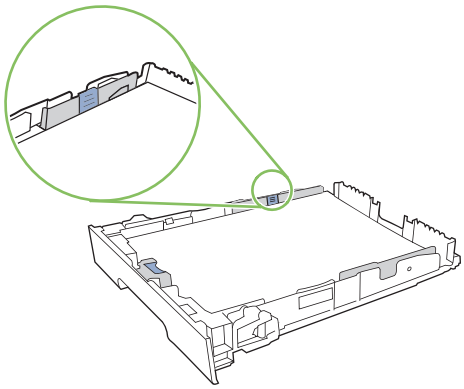
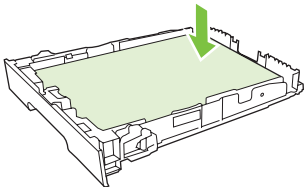
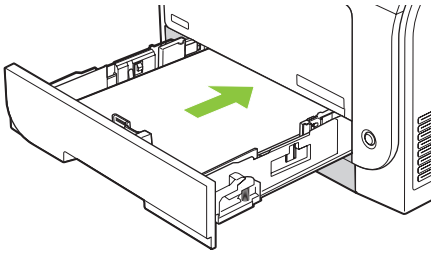
3. Place the paper in the tray and make sure that it is flat at all four corners. Slide the paper length and width guides so that they are against the stack of paper.



4. Push down on the paper to make sure that the paper stack is below the paper limit tabs on the side of the tray.



5. Slide the tray into the product.



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Configure trays

When using one of the trays for specific size of paper, you can set the default size for the tray in HP ToolboxFX or from the control panel. In HP ToolboxFX, select **Paper handling**, and then select the size for the tray you want to set. When you select that size of paper for a print job in the print dialog, the product automatically selects that tray for printing.

To set the default paper size or type from the control panel, complete the following steps.

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow keys to select **Paper setup**, and then press OK.
4. Use the arrow keys to select the tray to be configured, and then press OK.
5. Use the arrow keys to select either **Paper type** or **Paper size**, and then press OK.
6. Use the arrow keys to select a default type or size for the tray, and then press OK.

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7 Use product features

- Economy settings
- Fonts

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Economy settings

Archive print

Archive print produces output that is less susceptible to toner smearing and dusting. Use archive print to create documents that you want to preserve or archive.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Service**, and then press OK.
3. Use the arrow buttons to select **Archive print**, select **On** or **Off**, and then press OK.

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Fonts

Select fonts

Use HP ToolboxFX to change product fonts by clicking the **Print Settings** tab, and then clicking the **PCL5** page. Click **Apply** to save the changes.

Print lists of available fonts

Print lists of the fonts available from the product control panel. See Information pages on page 168.

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8 Print tasks

This section provides information about common printing tasks.

- Cancel a print job
- Use features in the Windows printer driver
- Change print-quality settings
- Print edge-to-edge originals

NOTE: Many of the functions that are described in this chapter also can be performed by using HP ToolboxFX. For instructions, see the HP ToolboxFX online Help.

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Cancel a print job

If the print job is currently printing, cancel it by pressing Cancel on the product control panel.

NOTE: Pressing Cancel clears the job that the product is currently processing. If more than one process is running (for example, the product is printing a document while receiving a fax), pressing Cancel clears the process that currently appears on the product control panel.

You can also cancel a print job from a software program or a print queue.

To stop the print job immediately, remove the remaining print media from the product. After printing stops, use one of the following options:

- **Device control panel:** To cancel the print job, press and release Cancel on the product control panel.
- **Software program:** Typically, a dialog box appears briefly on the computer screen, allowing you to cancel the print job.
- **Windows print queue:** If a print job is waiting in a print queue (computer memory) or print spooler, delete the job there.
    - **Windows 2000:** Go to the **Printer** dialog box. Click **Start**, click **Settings**, and then click **Printers**. Double-click the product icon to open the window, select the print job, and then click **Delete**.
    - **Windows XP:** Click **Start**, click **Settings**, and then click **Printers and Faxes**. Double-click the product icon to open the window, right-click the print job that you want to cancel, and then click **Cancel**.
    - **Windows Vista:** Click **Start**, click **Control Panel**, and then, under **Hardware and Sound**, click **Printer**. Double-click the product icon to open the window, right-click the print job that you want to cancel, and then click **Cancel**.
- **Macintosh print queue:** Open the print queue by double-clicking the product icon in the dock. Highlight the print job, and then click **Delete**.

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Use features in the Windows printer driver

Open the printer driver

How do I	Steps to perform
Open the printer driver	On the **File** menu in the software program, click **Print**. Select the printer, and then click **Properties** or **Preferences**.
Get help for any printing option	Click the **?** symbol in the upper-right corner of the printer driver, and then click any item in the printer driver. A pop-up message displays that provides information about the item. Or, click **Help** to open the online Help.

Use printing shortcuts

To perform the following tasks, open the printer driver and click the **Printing Shortcuts** tab.

NOTE: In previous HP printer drivers, this feature was called **Quick Sets**.

How do I	Steps to perform
Use a printing shortcut	Select one of the shortcuts, and then click **OK** to print the job with the predefined settings.
Create a custom printing shortcut	a) Select an existing shortcut as a base. b) Select the print options for the new shortcut. c) Click **Save As**, type a name for the shortcut, and click **OK**.

Set paper and quality options

To perform the following tasks, open the printer driver and click the **Paper/Quality** tab.

How do I	Steps to perform
Select a page size	Select a size from the **Paper size** drop-down list.
Select a custom page size	a) Click **Custom**. The **Custom Paper Size** dialog box opens. b) Type a name for the custom size, specify the dimensions, and click **OK**.
Select a paper source	Select a tray from the **Paper source** drop-down list.
Select a paper type	Select a type from the **Paper type** drop-down list.
Print covers on different paper Print the first or last page on different paper	a) In the **Special pages** area, click **Covers** or **Print pages on different paper**, and then click **Settings**. b) Select an option to print a blank or preprinted front cover, back cover, or both. Or, select an option to print the first or last page on different paper. c) Select options from the **Paper source** and **Paper type** drop-down lists, and then click **Add**. d) Click **OK**.

Set document effects

To perform the following tasks, open the printer driver and click the **Effects** tab.

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How do I	Steps to perform
Scale a page to fit on a selected paper size	Click **Print document on**, and then select a size from the drop-down list.
Scale a page to be a percent of the actual size	Click **% of actual size**, and then type the percent or adjust the slider bar.
Print a watermark	a) Select a watermark from the **Watermarks** drop-down list. b) To print the watermark on the first page only, click **First page only**. Otherwise, the watermark is printed on each page.
Add or edit watermarks **NOTE:** The printer driver must be stored on your computer for this to work.	a) In the **Watermarks** area, click **Edit**. The **Watermark Details** dialog box opens. b) Specify the settings for the watermark, and then click **OK**.

Set document finishing options

To perform the following tasks, open the printer driver and click the **Finishing** tab.

How do I	Steps to perform
Print on both sides (Duplex)	Click **Print on both sides**. If you will bind the document along the top edge, click **Flip pages up**.
Print a booklet	a) Click **Print on both sides**. b) In the **Booklet layout** drop-down list, click **Left binding** or **Right binding**. The **Pages per sheet** option automatically changes to **2 pages per sheet**.
Print multiple pages per sheet	a) Select the number of pages per sheet from the **Pages per sheet** drop-down list. b) Select the correct options for **Print page borders**, **Page order**, and **Orientation**.
Select page orientation	a) In the **Orientation** area, click **Portrait** or **Landscape**. b) To print the page image upside down, click **Rotate by 180 degrees**.

Obtain support and product-status information

To perform the following tasks, open the printer driver and click the **Services** tab.

How do I	Steps to perform
Obtain support information for the product and order supplies online	In the **Internet Services** drop-down list, select a support option, and click **Go!**
Check the status of the product, including the level of supplies	Click the **Device and Supplies Status** icon. The **Device Status** page of the HP embedded Web server opens.

Set advanced printing options

To perform the following tasks, open the printer driver and click the **Advanced** tab.

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How do I	Steps to perform
Select advanced printing options	In any of the sections, click a current setting to activate a drop-down list so you can change the setting.
Change the number of copies that are printed **NOTE:** If the software program that you are using does not provide a way to print a particular number of copies, you can change the number of copies in the driver. Changing this setting affects the number of copies for all print jobs. After your job has printed, restore this setting to the original value.	Open the **Paper/Output** section, and then enter the number of copies to print. If you select 2 or more copies, you can select the option to collate the pages.
Print colored text as black rather than as shades of gray	a) Open the **Document Options** section, and then open the **Printer Features** section. b) In the **Print All Text as Black** drop-down list, select **Enabled**.
Load letterhead or preprinted paper the same way for every job, whether printing on one or both sides of the page	a) Open the **Document Options** section, and then open the **Printer Features** section. b) In the **Alternative Letterhead Mode** drop-down list, select **On**. c) At the product, load the paper the same way you would for printing on both sides.
Change the order in which pages are printed	a) Open the **Document Options** section, and then open the **Layout Options** section. b) In the **Page Order** drop-down list, select **Front to Back** to print the pages in the same order as they are in the document, or select **Back to Front** to print the pages in the reverse order.

Change print-quality settings

1. On the **File** menu in the software program, click **Print**.
2. On the **Paper/Quality** tab, select the resolution or print-quality settings that you want from the **Print Quality** drop-down menu.
3. Click **OK**.

Print edge-to-edge originals

The product cannot print fully edge-to-edge. The maximum printing area is 203.2 x 347 mm (8 x 13.7 in), leaving a 4 mm unprintable border around the page on 216 x 356 mm paper.

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9 Copy

- Load originals
- Use copy
- Copy settings
- Copy a book
- Copy photos
- Copy mixed-size originals
- Duplex (two-sided) copy jobs

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Load originals

Automatic document feeder (ADF)

NOTE: The ADF capacity is up to 50 sheets of 80 g/m^2 or 20 lb media.

CAUTION: To prevent damage to the product, do not use an original that contains correction tape, correction fluid, paper clips, or staples. Also, do not load photographs, small originals, or fragile originals into the ADF. Use the flatbed glass to scan these items.

1. Insert the top-end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be copied on top of the stack.

   If the media is longer than letter- or A4-sized paper, pull out the ADF input tray extension to support the media.

2. Slide the stack into the ADF until it does not move any farther.

Document loaded appears on the control-panel display.

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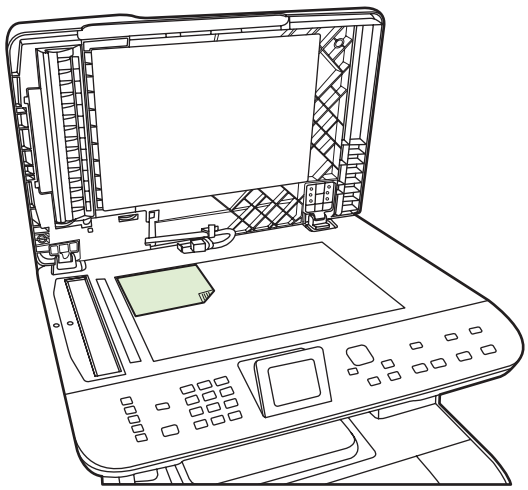
3. Adjust the media guides until they are snug against the media.

Flatbed glass

NOTE: The maximum media size for flatbed copying is letter. Use the ADF for copying media larger than letter.

1. Make sure that the automatic document feeder (ADF) contains no media.
2. Lift the flatbed scanner cover.
3. Place the original document face-down on the flatbed glass with the upper-left corner of the document at the corner indicated by the icon on the scanner.



4. Gently close the lid.

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Use copy

One-touch copy

1. Load the document into the automatic document feeder (ADF) input tray or onto the flatbed scanner.
2. Press Start Copy Black or Start Copy Color on the product control panel to start copying.
3. Repeat the process for each copy.

Multiple copies

You can make from 1 to 99 copies for the current job.

Change the number of copies for the current job

1. On the product control panel, press # of Copies, and then use the arrow buttons to select the number of copies (between 1 and 99) that you want to make for your current job.

   -or-

   For products with a graphical display, enter the number of copies using the alphanumeric keys.
2. Press Start Copy Black or Start Copy Color to begin copying your job.

NOTE: The change in the setting remains active for about 2 minutes after the copy job has been completed. During this time, **Custom settings** appears on the product control-panel display.

Change the default number of copies

You can set 1 to 99 as the default number of copies.

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Use the arrow buttons to select **Def. # of copies**, and then press OK.
4. Use the alphanumeric buttons to type the number of copies (between 1 and 99) that you want as the default.
5. Press OK to save your selection.

NOTE: The factory-set default for the number of copies is **1**.

Cancel a copy job

To cancel a copy job, press Cancel on the product control panel. If more than one process is running, pressing Cancel clears the process that currently appears on the product control-panel display.

NOTE: If you cancel a copy job, remove the document from the flatbed glass or from the automatic document feeder.

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Reduce or enlarge copies

Reduce or enlarge copies for the current job

1. On the product control panel, press Reduce/Enlarge.

   -or-

   On products with a graphic display, press Copy Menu, and then choose **Size**.

2. Select the size to which you would like to reduce or enlarge the copies in this job.

   NOTE: If you select **Custom: 25 to 400%**, type a percentage by using the alphanumeric buttons.

   If you select **2 pages per sheet** or **4 pages per sheet**, select the orientation (portrait or landscape).

3. Press Start Copy to save the selection and immediately start the copy job, or press OK to save the selection without starting the job.

NOTE: The change in the setting remains active for about 2 minutes after the copy job has been completed. During this time, **Custom settings** appears on the product control-panel display.

You must change the default media size in the media input tray to match the output size, or part of your copy might be cut off.

Adjust the default copy size

NOTE: The default copy size is the size to which copies are normally reduced or enlarged. If you keep the factory default size setting of **Original=100%**, all copies will be the same size as the original document.

1. Press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Use the arrow buttons to select **Def. Redu/Enlrg**, and then press OK.
4. Use the arrow buttons to select the option for how you normally want to reduce or enlarge copies.

   NOTE: If you select **Custom: 25-400%**, type in the percentage of the original size that you normally want for copies.

   If you select **2 pages/sheet** or **4 pages/sheet**, select the orientation (portrait or landscape).

5. Press OK to save the selection.

The product can reduce copies to as little as 25% of the original size or enlarge copies to as much as 400% of the original size.

Reduction/enlargement settings

- **Original=100%**
- **Lgl > Ltr=78%**
- **Lgl > A4=83%**
- **A4 > Ltr=94%**
- **Ltr > A4=97%**

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- **Full Page=91%**
- **Fit to page**
- **2 pages/sheet**
- **4 pages/sheet**
- **Custom: 25-400%**

NOTE: When using the **Fit to page** setting, copy from the flatbed scanner only.

After selecting the **2 pages/sheet** or **4 pages/sheet** option, you must select the page orientation (portrait or landscape).

Change the copy-collation setting

You can set the product to automatically collate multiple copies into sets. For example, if you are making two copies of three pages and the automatic collation is on, the pages print in this order: 1,2,3,1,2,3. If automatic collation is off, the pages print in this order: 1,1,2,2,3,3.

To use the automatic collation, the original document size must fit into the memory. If it does not, the product makes only one copy and a message appears notifying you of the change. If that happens, use one of the following methods to finish the job:

- Split the job into smaller jobs that contain fewer pages.
- Make only one copy of the document at a time.
- Turn off the automatic collation.

Change the copy-collation setting for the current job

1. On the product control panel, press Copy Features.

   -or-

   On products with a graphical display, press Copy Menu, then use the arrow keys to select Options and press OK.

2. Use the arrow keys to select Copy Collation, and then press OK.
3. Use the arrow buttons to select **On** or **Off**.
4. Press Start Copy to save the selection and immediately start the copy job, or press OK to save the selection without starting the job.

Change the default copy-collation setting

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Use the arrow buttons to select **Def. Collation**, and then press OK.
4. Use the arrow buttons to select **On** or **Off**.
5. Press OK to save the selection.

NOTE: The factory-set default for automatic copy collation is **On**.

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Color copies or black and white copies (Mono)

1. On the product control panel, press Setup, and then press OK.
2. Use the arrow buttons to select **Copy setup**, and then press OK
3. Use the arrow buttons to select **Advanced**, and then press OK
4. Use the arrow buttons to select **Color Copy**, and then press OK
5. Use the arrow buttons and select **On** or **Off**. When set to **Off**, the control panel displays **Color copy restricted** if Start Copy Color is pressed.
6. Press OK.

Copy settings

Copy quality

Five copy-quality settings are available: **Auto Select**, **Mixed**, **Picture**, **Photograph**, and **Text**.

The factory-set default for copy quality is **Auto Select**, where product automatically chooses the best quality setting based on the media input.

When making a copy of a photo or graphic, you can select the **Photograph** setting for photos or the **Printed Picture** setting for other graphics to increase the quality of your copy. Select the **Text** setting for items that contain mostly text. Select the **Mixed** setting for documents that include both text and graphics.

Adjust the copy quality for the current job

1. On the product control panel, press Copy Features.

   -or-

   On products with a graphical display, press Copy Menu, then use the arrow keys to select Options, and then press OK.
2. Use the arrow buttons to select **Optimize**, and then press OK to see the quality setting for the copy.
3. Use the arrow buttons to scroll through the quality setting options.
4. Select a setting, and then press Start Copy to save the selection and immediately start the copy job, or press OK to save the selection without starting the job.

NOTE: The change in the setting remains active for about 2 minutes after the copy job has been completed. During this time, **Custom settings** appears on the product control-panel display.

Adjust the default copy quality

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Use the arrow buttons to select **Default Optimize**, and then press OK.
4. Use the arrow buttons to select the copy quality, and then press OK to save the selection.

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Clean the scanner glass

Dirt, fingerprints, smudges, hair and other marks on the scanner glass slows scanner performance and affects the accuracy of special features such as fit-to-page and copy. To improve the quality of your copies and scans, clean the scanner glass. See Clean the scanner glass on page 195.

Adjust the lighter/darker (contrast) setting

The lighter/darker setting affects the lightness or darkness (contrast) of the copy. Use the following procedure to change the contrast for the current copy job only.

Adjust the lighter/darker setting for the current job

1. On the control panel press Lighter/Darker.

   -or-

   On products with a graphical display, press Copy Menu, then use the arrow buttons to select Lighter/Darker, and then press OK.

2. Use the arrow buttons to adjust the setting. Move the slider to the left to make the copy lighter than the original, or move the slider to the right to make the copy darker than the original.

3. Press Start Copy to save the selection and immediately start the copy job, or press OK to save the selection without starting the job.

NOTE: The change in the setting remains active for about 2 minutes after the copy job has been completed. During this time, **Custom settings** appears on the product control-panel display.

Adjust the default lighter/darker setting

NOTE: The default lighter/darker setting affects all copy jobs.

1. On the product control panel, press Setup.

2. Use the arrow buttons button to select **Copy setup**, and then press OK.

3. Use the arrow buttons button to select **Def. Light/dark**, and then press OK.

4. Use the arrow buttons button to adjust the setting. Move the slider to the left to make all of the copies lighter than the original, or move the slider to the right to make all of the copies darker than the original.

5. Press OK to save the selection.

Define custom copy settings

When you change the copy settings at the control panel, **Custom settings** appears on the control-panel display. The custom settings remain in effect for approximately 2 minutes, and then the product returns to the default settings. To immediately return to the default settings, press Cancel.

Print or copy edge-to-edge

NOTE: The printed or copied page has a border of approximately 4 mm (1/6 of an inch). The product does not support edge-to-edge printing or copying.

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Considerations for printing or scanning documents with cropped edges:

- When the original is smaller than the output size, move the original 4 mm (1/6 inch) away from the bottom and right edges of the scanner glass. Recopy or scan in this position.
- When the original is the size of the desired output, make a copy with smaller edges by:
  - Select Reduce/Enlarge, and press the navigation arrows to select **Full Page=91%**, then press Start Copy Black or Start Copy Color.

Copy onto media of different types and sizes

The product is set to copy on either letter- or A4-size paper, depending on the country/region in which it was purchased. You can change the size and type of media that you copy to for the current copy job or for all copy jobs.

Media-size settings

- **Letter**
- **Legal**
- **A4**

Media-type settings

- **Plain**
- **Light**
- **Heavy**
- **Transparency**
- **Labels**
- **Letterhead**
- **Envelope**
- **Preprinted**
- **Prepunched**
- **Colored**
- **Bond**
- **Recycled**
- **Mid weight**
- **Extra heavy**
- **Rough**

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Change the media size and type for the current job

NOTE: Change the default media size and type settings to change the media size and type.

1. On the product control panel, press Copy Features.

   -or-

   For products with a graphical display, press Copy Menu, then use the arrow keys to select Options, and then press OK.

2. Use the arrow buttons to select Copy Paper, and then press OK.
3. Use the arrow buttons to select a media size, and then press OK.
4. Use the arrow buttons to select a media type, and then press OK.
5. Press Start Copy.

Change the default media-size setting

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow buttons to select **Paper setup**, and then press OK.
4. Use the arrow buttons to select **Def. paper size**, and then press OK.
5. Use the arrow buttons to select a media size, and then press OK.
6. Press OK to save the selection.

Change the default media-type setting

1. On the product control panel, press Setup.
2. Use the arrow buttons to select System setup, and then press OK.
3. Use the arrow buttons to select **Paper setup**, and then press OK.
4. Use the arrow buttons to select **Def. paper type**, and then press OK.
5. Use the arrow buttons to select a media type, and then press OK.
6. Press OK to save the selection.

Restore the copy-settings defaults

Use the control panel to restore the copy settings to the factory-set default values.

1. On the product control panel, press Setup.
2. Use the arrow buttons to select Copy setup, and then press OK.
3. Use the arrow buttons to select **Restore defaults**, and then press OK.

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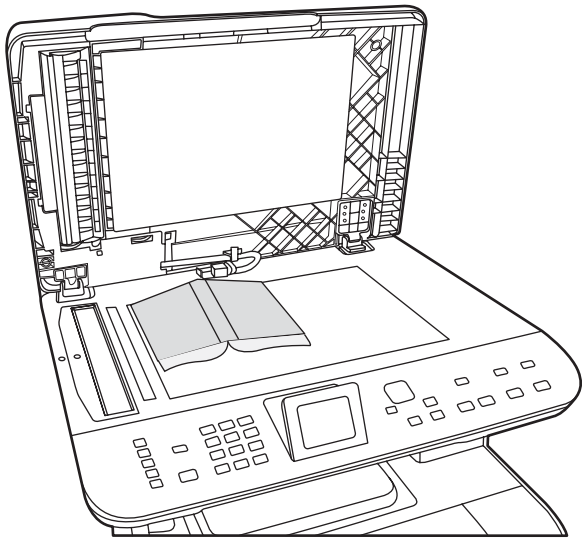
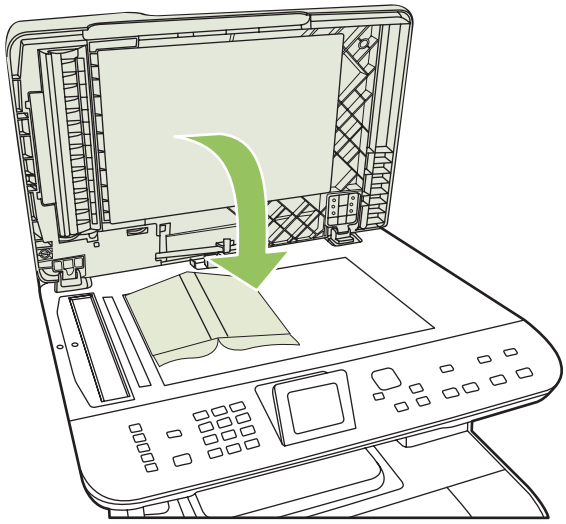
Copy a book

1. Lift the lid and place the book on the flatbed scanner with the page that you want to copy at the upper-left corner of the glass.



2. Gently close the lid.



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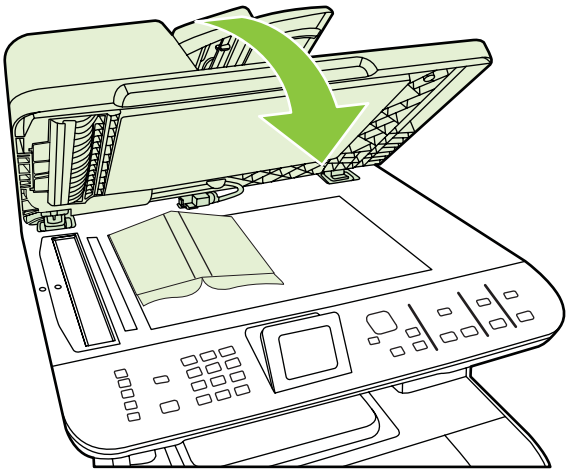
3. Gently press down on the lid to press the book to the flatbed scanner surface.



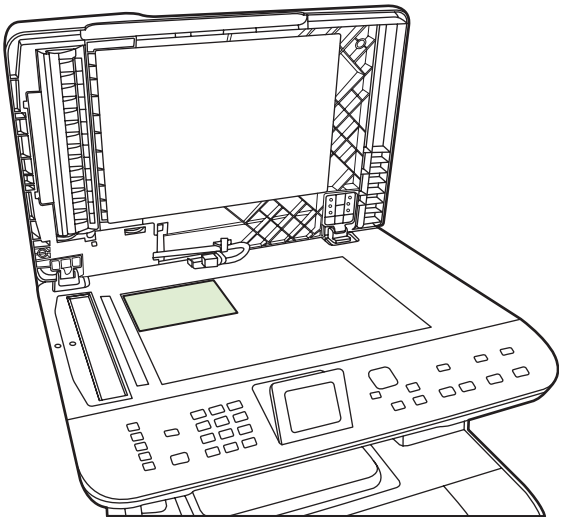
△ **CAUTION:** Pressing on the flatbed cover with too much force can break the lid hinges.

4. Press Start Copy.

Copy photos

NOTE: Photographs should be copied from the product flatbed scanner, not from the automatic document feeder (ADF).

1. Place the photo on the flatbed scanner, picture-side down at the corner indicated by the icon on the scanner.



2. Gently close the lid.
3. Adjust the copy quality settings on the product as desired for photo printing.
4. Press Start Copy.

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Copy mixed-size originals

Use the flatbed scanner when making copies of mixed-size originals. Do not use the ADF.

Duplex (two-sided) copy jobs

Copy two-sided documents automatically (HP Color LaserJet CM2320 MFP Memory-Card Model only)

Make two-sided copies from one-sided documents

1. Load the documents to be copied into the automatic document feeder (ADF) input tray with the first page facing up, and with the top of the page leading into the ADF.

2. On the product control panel, press Copy Menu.
3. Use the arrow buttons to select **Options**, and then press OK.
4. Use the arrow buttons to select **Copy 2-sided**, and then press OK.
5. Use the arrow buttons to select **1-sided to 2-sided**, and then press OK.
6. Press Start Copy Black or Start Copy Color.

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Make two-sided copies from two-sided documents

1. Load the documents to be copied into the automatic document feeder (ADF) input tray with the first page facing up, and with the top of the page leading into the ADF.

2. On the product control panel, press Copy Menu.
3. Use the arrow buttons to select **Options**, and then press OK.
4. Use the arrow buttons to select **Copy 2-sided**, and then press OK.
5. Use the arrow buttons to select **2-sided to 2-sided**, and then press OK.
6. Press Start Copy Black or Start Copy Color.

Change the default 2-Sided setting

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Use the arrow buttons to select **Default 2-sided**, and then press OK.
4. Use the arrow buttons to select the option for how you normally want to use the automatic duplexer when you copy documents.
5. Press OK to save the selection.

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Copy two-sided documents manually

Set the multiple-page flatbed copy setting

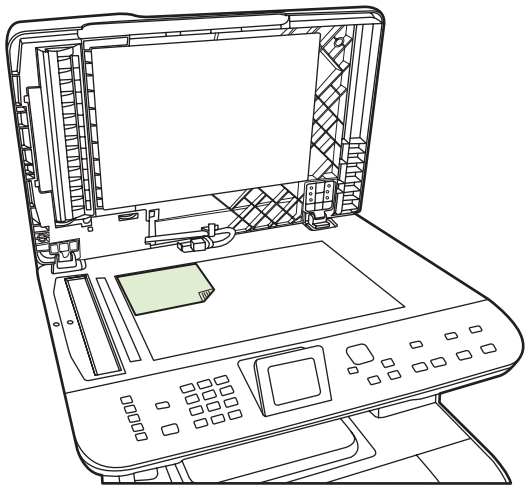
The multiple-page flatbed copy setting must be set to **On** before the product will produce two-sided copies from the flatbed scanner.

1. On the product control panel, press Setup.
2. Use the arrow buttons to select **Copy setup**, and then press OK.
3. Press OK to select **Default Multi-page**.
4. Use the arrow buttons to select **On** or **Off**.
5. Press OK to save the selection.

NOTE: The factory-set default for automatic copy collation is **On**.

Copy two-sided documents manually (HP Color LaserJet CM2320 MFP Memory-Card Model only)

1. Load the first page of the document on the flatbed glass.



2. Press Copy Menu.
3. Use the arrow buttons to select Options.
4. Use the arrow buttons to select Multi-page copy.
5. Use the arrow buttons to select On.
6. Press OK, and then press Start Copy Black or Start Copy Color.
7. Remove the first page, and then load the second page onto the flatbed scanner.
8. Press OK, and then repeat the process until all of the pages in the original have been copied.
9. When the copy job is completed, press Start Copy Black or Start Copy Color to return the product to Ready mode.

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10 Color for Windows

- Manage color
- Match colors
- Advanced color use

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Manage color

Manage color by changing the settings on the Color tab in the printer driver.

Automatic

Setting color options to **Automatic** typically produces the best possible print quality for color documents. The **Automatic** color adjustment option optimizes the neutral-gray color treatment, halftones, and edge enhancements for each element in a document. For more information, see your printer driver online Help.

NOTE: **Automatic** is the default setting and is recommended for printing all color documents.

Print in Grayscale

Select the **Print in Grayscale** option from the printer driver to print a color document in black and white. This option is useful for printing color documents that will be photocopied or faxed.

When **Print in Grayscale** is selected, the product uses the monochrome mode, which reduces use of the color cartridges.

Manual color adjustment

Use the **Manual** color adjustment option to adjust the neutral-gray color treatment, halftones, and edge enhancements for text, graphics, and photographs. To gain access to the manual color options, from the **Color** tab, select **Manual**, and then select **Settings**.

Manual color options

Use manual color options to adjust the **Neutral Grays**, **Halftone**, and **Edge Control** options for text, graphics, and photographs.

Table 10-1 Manual color options

Setting description	Setting options
Halftone **Halftone** options affect the color output resolution and clarity.	• **Smooth** provides better results for large, solid-filled print areas and enhances photographs by smoothing color gradations. Select this option when uniform and smooth area fills are the top priority. • **Detail** is useful for text and graphics that require sharp distinctions among lines or colors, or images that contain a pattern or a high level of detail. Select this option when sharp edges and details are the top priority.

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Table 10-1 Manual color options (continued)

Setting description	Setting options
Neutral Grays The **Neutral Grays** setting determines the method for creating gray colors used in text, graphics, and photographs.	• **Black Only** generates neutral colors (grays and black) by using only black toner. This guarantees neutral colors without a color cast. This setting is best for documents and grayscale viewgraphs. • **4-Color** generates neutral colors (grays and black) by combining all four toner colors. This method produces smoother gradients and transitions to other colors, and it produces the darkest black.
Edge Control The **Edge Control** setting determines how edges are rendered. Edge control has two components: adaptive halftoning and trapping. Adaptive halftoning increases edge sharpness. Trapping reduces the effect of color-plane misregistration by overlapping the edges of adjacent objects slightly.	• **Maximum** is the most aggressive trapping setting. Adaptive halftoning is on. • **Normal** sets trapping at a medium level. Adaptive halftoning is on. • **Light** sets trapping at a minimal level, Adaptive halftoning is on. • **Off** turns off both trapping and adaptive halftoning.

Color themes

Use color themes to adjust the **RGB Color** options for the entire page.

Setting description	Setting options
RGB Color	• **Default (sRGB)** instructs the product to interpret RGB color as sRGB. The sRGB standard is the accepted standard of Microsoft and the World Wide Web Consortium (http://www.w3.org). • **Vivid** instructs the product to increase the color saturation in the midtones. Less colorful objects are rendered more colorfully. This setting is recommended for printing business graphics. • **Photo** interprets RGB color as if it were printed as a photograph using a digital mini-lab. It renders deeper, more saturated colors differently than Default (sRGB) mode. Use this setting for printing photos. • **Photo (AdobeRGB 1998)** is for digital photos that use the AdobeRGB color space rather than sRGB. When printing from a professional software program that uses AdobeRGB, it is important to turn off the color management in the software program and allow the product to manage the color space. • **None** sets the printer to print RGB data in raw device mode. To render photographs correctly when this option is selected, you must manage color in the program in which you are working or in the operating system.

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Match colors

For most users, the best method for matching colors is to print sRGB colors.

The process of matching printer output color to your computer screen is complex, because printers and computer monitors use different methods of producing color. Monitors *display* colors by using light pixels that use an RGB (red, green, blue) color process, but printers *print* colors by using a CMYK (cyan, magenta, yellow, and black) process.

Several factors can influence your ability to match printed colors to those on your monitor:

- Print media
- Printer colorants (inks or toners, for example)
- Printing process (inkjet, press, or laser technology, for example)
- Overhead lighting
- Personal differences in perception of color
- Software programs
- Printer drivers
- Computer operating systems
- Monitors
- Video cards and drivers
- Operating environment (humidity, for example)

Keep these factors in mind when colors on your screen do not perfectly match your printed colors.

Match colors using the Microsoft Office Basic Colors palette

You can use HP ToolboxFX to print a palette of the Microsoft Office Basic Colors. Use this palette to select the colors that you want to use in printed documents. It shows the actual colors that print when you select these basic colors in a Microsoft Office program.

1. In HP ToolboxFX, select the **Help** folder.
2. In the **Color Printing Tools** section, select **Print Basic Colors**.
3. Adjust color in your document to match the color selection on the printed color palette.

Match colors using the HP Basic Color Match tool

The HP Basic Color Match tool allows you to adjust spot color in your printed output. For example, you can match the color of your company logo on your printed output. You can save and use the new color schemes for specific documents or all printed documents, or you can create multiple color schemes that you can choose from later.

This software tool is available to all users of this product. Before you can use the tool, you must download it from the Web through HP ToolboxFX or the software CD that came with your product.

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Use the following procedure to download the HP Basic Color Match tool through the software CD.

1. Insert the CD into your CD-ROM drive. The CD autoruns.
2. Select **Install more software**.
3. Select **HP Basic Color Match**. The tool downloads and installs itself. A desktop icon is also created.

Use the following procedure to download the HP Basic Color Match tool through HP ToolboxFX.

1. Open HP ToolboxFX.
2. Select the **Help** folder.
3. In the **Color Printing Tools** section, select **Basic Color Match**. The tool downloads and installs itself. A desktop icon is also created.

After the HP Basic Color Match tool is downloaded and installed, it can be run from the desktop icon or from HP ToolboxFX (click the **Help** folder, and then **Color Printing Tools**, and then **Basic Color Match**). The tool guides you through selecting colors. All color matches selected are saved as a color theme and can be accessed in the future.

Match colors using View Custom Colors

You can use HP ToolboxFX to print a palette of custom colors. In the **Toolbox Color Printing Tools** section, click **View Custom Colors**. Tab to the color page desired and print the current page. In your document, type the red, green, and blue values in the software's custom color menu to change them to match the color on the palette.

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Advanced color use

The product provides automatic color features that generate excellent color results. Carefully designed and tested color tables provide smooth, accurate color rendition of all printable colors.

The product also provides sophisticated tools for the experienced professional.

HP ColorSphere toner

HP designs the print system (printer, print cartridges, toner, and paper) to work together to optimize print quality, product reliability, and user productivity. Original HP print cartridges contain HP ColorSphere toner that is specifically matched to your printer so that it will produce a wide range of brilliant colors. This helps you create professional looking documents that contain sharp, clear text and graphics and realistic printed photos.

HP ColorSphere toner produces print-quality consistency and intensity you can depend on across a wide range of papers That means you can produce documents that help you make the right impression. Plus, HP professional-quality everyday and specialty papers (including a wide variety of HP media types and weights) are designed for the way you work.

HP ImageREt 3600

ImageREt 3600 provides 3600 dots-per-inch (dpi) color laser-class quality through a multi-level printing process. This process precisely controls color by combining up to four colors within a single dot and by varying the amount of toner in a given area. ImageREt 3600 has been improved for this product. The improvements offer trapping technologies, greater control over dot placement, and more precise control of toner quality in a dot. These new technologies, coupled with HP's multi-level printing process, result in a 600 x 600 dpi printer that provides 3600-dpi color laser-class quality with millions of smooth colors.

Media selection

For the best color and image quality, select the appropriate media type from the software printer menu or from the printer driver.

Color options

Color options automatically provide optimal color output. These options use object tagging, which provides optimal color and halftone settings for different objects (text, graphics, and photos) on a page. The printer driver determines which objects appear on a page and uses halftone and color settings that provide the best print quality for each object.

In the Windows environment, the **Automatic** and **Manual** color options are on the **Color** tab in the printer driver.

Standard red-green-blue (sRGB)

Standard red-green-blue (sRGB) is a worldwide color standard that HP and Microsoft developed as a common color language for monitors, input devices (scanners and digital cameras), and output devices (printers and plotters). It is the default color space used for HP products, Microsoft operating systems, the World Wide Web, and most office software. The sRGB standard represents the typical Windows monitor and is the convergence standard for high-definition television.

NOTE: Factors such as the type of monitor you use and the room lighting can affect the appearance of colors on your screen. For more information, see Match colors on page 92.

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The latest versions of Adobe PhotoShop®, CorelDRAW®, Microsoft Office, and many other programs use sRGB to communicate color. Because it is the default color space in Microsoft operating systems, sRGB has been adopted broadly. When programs and devices use sRGB to exchange color information, typical users experience greatly improved color matching.

The sRGB standard improves your ability to match colors between the product, the computer monitor, and other input devices automatically, and eliminates the need to become a color expert.

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11 Scan

- Load originals for scanning
- Use scan
- Scan settings
- Scan a book
- Scan a photo

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Load originals for scanning

Automatic document feeder (ADF)

NOTE: The ADF capacity is up to 50 sheets of 80 g/m^2 or 20 lb media.

CAUTION: To prevent damage to the product, do not use an original that contains correction tape, correction fluid, paper clips, or staples. Also, do not load photographs, small originals, or fragile originals into the ADF. Use the flatbed glass to scan these items.

1. Insert the top-end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be copied on top of the stack.

   If the media is longer than letter- or A4-sized paper, pull out the ADF input tray extension to support the media.

2. Slide the stack into the ADF until it does not move any farther.

Document loaded appears on the control-panel display.

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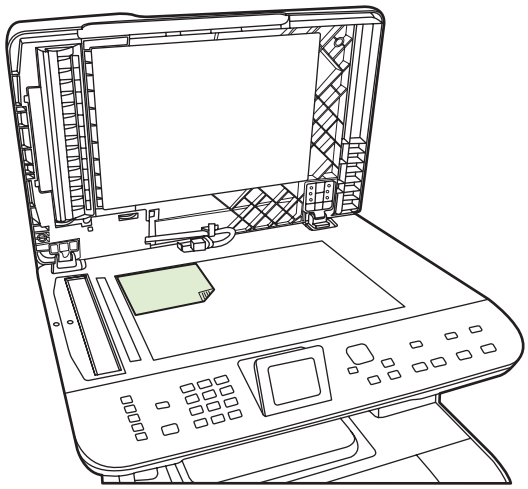
3. Adjust the media guides until they are snug against the media.

Flatbed scanner

NOTE: The maximum media size for flatbed scanning is A4. For media larger than A4, use the ADF.

1. Make sure that the automatic document feeder (ADF) contains no media.
2. Lift the flatbed scanner cover.
3. Place the original document face-down on the flatbed scanner with the upper-left corner of the document at the corner indicated by the icon on the scanner.



4. Gently close the lid.

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Use scan

Scan methods

Scan jobs can be performed in the following ways.

- Scan from the computer by using HP LaserJet Scan (Windows)
- Scanning by using HP Director (Macintosh). See Scan on page 42.
- Scan from the product
- Scan from TWAIN-compliant or Windows Imaging Application (WIA)-compliant software

NOTE: To learn about and use text-recognition software, install the Readiris program from the software CD-ROM. Text-recognition software is also known as optical character recognition (OCR) software.

Scan from the PC

1. In the HP program group, select **Scan** to start HP LaserJet Scan.

   NOTE: Pressing Start Scan on the product control panel also starts HP LaserJet Scan.

2. Choose the action that you want to accomplish.

   - Select a destination to begin scanning immediately.
   - Select **Scan after prompting me for settings** to specify additional settings before you begin scanning.
   - Select **Set up the device** to program scan destinations for scanning directly from the device. This functionality is available under the Scan menu on the device.

3. Click **OK**.

   NOTE: **OK** should indicate the action that you want to accomplish.

Scan from the product

Scan directly from the product by using the control-panel scan buttons. Press Start Scan or Scan Menu to scan to a folder (Windows only) or to scan to e-mail.

Use the Scan feature

- Scanning from the product control panel is only supported with a full software installation. HP ToolboxFX must be running to scan by using the Scan Menu button or the Start Scan button.
- For the best scan quality, place your originals onto the flatbed scanner, rather than loading them into the automatic document feeder (ADF) input tray.
- The computer that is connected to the product must be turned on.

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Set up the product Scan To destinations

Destinations must be set up prior to choosing a destination from the Select Computer menu under the Scan menu on the control panel. Use HP LaserJet Scan to program the folder, e-mail, and program destinations for scanning.

Set up destinations on the product

1. Click **Start**, click **Programs** (or **All Programs** in Windows XP), click **HP**, click the product, click **Scan**, and then click **Settings**.
2. Select **Change the destinations that show up on the all-in-one control panel**.
3. The product is pre-configured with the following three destinations in the dialog box.
   - Scan a document and attach it to an e-mail
   - Scan a photo and attach it to an e-mail
   - Scan a photo and save it as a file
4. Highlight a destination and click the arrow to move to the destinations currently on the dialog box. Repeat for all three destinations.
5. Click **Update**.

Add destinations

1. Click **Start**, click **Programs** (or **All Programs** in Windows XP), click **HP**, click the product, click **Scan**, and then click **Settings**.
2. Select **Create a new destination with settings that I specify**.
3. Do one of the following:
   - For folders, select **Save it to my computer**, and then click **Next**.
   - For e-mail, select **Attach to a new e-mail**, and then click **Next**.
   - For programs, select **Open it in another software application**, and then click **Next**.
4. Enter the file destination name or check to set up the destination on the product. Name the default destination, and then click **Next**.
5. Select the quality and click **Next**.
6. Verify the selections, and then click **Save**.

Delete destinations

1. From the **Set up the <Scan To> list for the All-in-One**, select one of the **Available Destinations on this PC** and click **Delete**. The **Delete Destination** dialog box displays.
2. From the **Delete Destination** dialog box, highlight the destination to delete and click **Next**. The **Confirmation** dialog box displays.
3. Click **Delete** to perform the deletion, or click **Cancel** to choose another destination.

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Scan to a file or software program

NOTE: To use this feature in Windows, a destination must be programmed in the scan setup before scanning to a destination. See Set up the product Scan To destinations on page 101.

1. Load the originals that are to be scanned face-up in the automatic document feeder (ADF) input tray, with the top of the document forward, and adjust the media guides.

   -or-

   Lift the flatbed scanner lid and load the original that is to be scanned face-down on the flatbed scanner with the top, left corner of the document located in the lower-right corner of the glass. Gently close the lid.

2. On the product control panel, press Scan Menu.
3. Use the arrow buttons to select Select Computer, and then press OK.
4. Use the arrow buttons to select a file destination.
5. Press Start Scan or OK to scan the document to a file.

Scan to e-mail

Configure scan-to-e-mail

Before the scan-to-e-mail features can be used, you must specify the SMTP gateway, SMTP port, and other basic information.

1. If the product control panel has an Email Menu button, press Email Menu.

   -or-

   If the product control panel does not have an Email Menu button, press Scan Menu

2. Use the arrow buttons to select **E-mail Setup**, and then press OK.
3. After reading the information screen, press OK.
4. Use the alphanumeric keypad to type the SMTP gateway, and then press OK.

   NOTE: The SMTP gateway is a server that is used to send e-mail; for example, “mail.yourISP.com”. Contact your system administrator for this information.

5. Use the alphanumeric keypad to type the SMTP port (a number between 0 and 65535), and then press OK. The product then tests the SMTP settings to make sure they are valid.

   NOTE: If the test fails, it might be because the SMTP gateway or port is incorrect, or there are network issues affecting connectivity. It is also possible that the device cannot resolve a gateway host name because the device does not have a DNS entry configured for DHCP. In this case, you will need to use the IP address for the SMTP gateway or manually program the DNS server's IP address in the initial setup or in the embedded Web server's IPv4 Network Configuration page. If the DNS server isn't present during the configuration, the setup process prompts you to enter the DNS server. The DNS server information can obtained from your ISP or from your system administrator.

6. Type a default subject to use for each e-mail, and then press OK. The subject cannot be longer than 40 characters.

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7. Select **Yes** or **No** to indicate whether you would like to change the subject line for each e-mail.
8. Select **Yes** or **No** to indicate whether you would like to add a Reply To address for each e-mail sent.
9. Press OK to complete the e-mail configuration process.

Send a scanned document to an e-mail recipient

1. Place the document to be scanned on the flatbed glass or in the document feeder.

   NOTE: Legal paper must be placed in the document feeder.

2. If the product control panel has a Start Email button, press Start Email.

   -or-

   If the product control panel does not have a Start Email button, press Scan Menu, and the use the arrow buttons to select **Send an E-mail**. Then press OK.

3. Specify the e-mail recipient and other information:

   Send to a new e-mail recipient:

   a. Use the arrow buttons to select **Enter a New E-mail Address**, and then press OK.

   b. Use the alphanumeric keypad to type the recipient's e-mail address, and then press OK.

      NOTE: When typing a recipient or other information, use the left arrow button to delete incorrect keystrokes, and use the up or right arrow buttons to add a space.

   c. Select **Yes** or **No** to indicate whether you would like to save this e-mail address to the contact list, and then press OK.

   d. If your settings require you to set the subject of the e-mail and/or a reply-to address, provide that information and then press OK.

   Send to an existing e-mail contact:

   a. Use the arrow buttons to select **Use E-mail Contacts**, and then press OK.

   b. Use the arrow buttons to select a recipient, and then press OK.

   c. If your settings require you to set the subject of the e-mail and/or a reply-to address, provide that information and then press OK.

   Send to a recipient in your e-mail history:

   a. Use the arrow buttons to select **Use E-mail History**, and then press OK.

   b. Use the arrow buttons to select a recipient, and then press OK.

   c. If your settings require you to set the subject of the e-mail and/or a reply-to address, provide that information and then press OK.

After specifying the recipient and other e-mail header information, the document is scanned and sent.

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Edit scan quality and size settings

Edit the default scan resolution:

1. If the product control panel has an Email Menu button, press Email Menu.

   -or-

   If the product control panel does not have an Email Menu button, press Scan Menu.
2. Use the arrow buttons to select **Current Settings**, and then press OK.
3. Use the arrow buttons to select **Scan Resolution**, and then press OK.
4. Select an option: **75**, **150**, or **300**, and then press OK.

Edit the default scan paper size:

1. If the product control panel has an Email Menu button, press Email Menu.

   -or-

   If the product control panel does not have an Email Menu button, press Scan Menu.
2. Use the arrow buttons to select **Current Settings**, and then press OK.
3. Use the arrow buttons to select **Scan Paper Size**, and then press OK.
4. Select an option: **Letter**, **Legal**, or **A4**, and then press OK.

Scan to a memory card

This feature allows you to scan a document and save it to an inserted memory card.

Scan Details

You can scan from both the ADF and flatbed. The device will look for the presence of paper in the ADF. If there is paper, then the ADF is used. Otherwise the flatbed is scanned. Only single-page scanning is supported from the flatbed.

The following scan settings used are for a default 300dpi scan:

- Resolution: 300dpi
- Width: 2550
- Height: 3500
- Quality: ImagePipeNormalQuality
- Compression: JPEG compression

Image File Details

The scanned file is saved as a .jpg image. A separate file is created for each page scanned.

Scanned images are saved to a directory named "HP<model number>" at the root level of the memory card.

The first scanned file is named HP0001.jpg. Each subsequent file name is incremented by one.

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The date and time linked to the newly created file will match the date and time on the device when the scan occurred. Therefore, the date and time must be set correctly in order for the date and time of the file to be correct.

If the scan fails for any reason (adf jam, cancel, etc…) the partial file is removed from the memory card. However, if the memory card is removed while writing, a partial file may still exist on the card.

Error Conditions

Scanner Failures

If the paper jams in the ADF, or the paper is mispicked in the ADF, or the ADF door is opened while scanning, then the scan to card is stopped. The partial file is removed from the memory card. All scanned pages that were previously scanned remain on the memory card.

Cancel scan

If the user presses cancel while scanning to card, then the scan is stopped, and the partial file removed. All scanned pages that were previously scanned remain on the memory card.

Memory card failures

If the memory card is read-only, then the device is unable to scan to it. An error message is displayed when trying to scan to the card. Un-lock the card in order to scan to it.

If the memory card is removed while scanning to it, then the scan is stopped. A partial file may still exist on the memory card.

If the memory card is corrupt, then the scan is stopped, and an appropriate error message is displayed. Insert a valid memory card to continue scanning.

If the memory card is full, then the scan is stopped and an appropriate error message is displayed. Delete files on the memory card or use a different card with sufficient available space to continue scanning.

If the photo slots have been disabled an appropriate error message is displayed. Enable the photo slots to continue scanning.

If there is no card inserted when trying to scan then an appropriate error message is displayed. Insert a memory card to continue scanning.

Scan from the HP Scanning software

Use the HP Scanning software to initiate picture, document, and film scans. If you choose to preview the scanned images or document pages in the HP Scanning window, you can adjust the image to achieve the size and effect that you want.

The basic steps for scanning are:

1. Place the original in the device. Look for the icons on the device to guide you in proper placement of the original.

   NOTE: If you place the original in the Automatic Document Feeder (ADF), you must put the media into the feeder before you start a scan. Otherwise, scanning will occur from the scanner glass.

2. Select **HP Color LaserJet CM2320 MFP Series** in the HP Solution Center.

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3. Click the Scan button for the type of original that you are scanning. The **Scanning From...** dialog box is displayed.
4. Select a scan shortcut that defines the settings for the type of original that you are scanning and the scan destination that you want.
5. Click **Scan**. If the HP Scanning window is displayed, adjust the images as you want, and then click **Finish**.

Cancel scan

To cancel a scan job, use one of the following procedures.

- On the product control panel, press Cancel.
- Click the **Cancel** button in the onscreen dialog box.

If you cancel a scan job, remove the original from the flatbed scanner or from the automatic document feeder (ADF) input tray.

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Scan settings

Scan file format

The file format of a scanned document or photo depends on the scan type as well as the object being scanned.

- Scanning a document or a photo to a computer results in the file being saved as a .TIF file.
- Scanning a document to e-mail results in the file being saved as a .PDF file.
- Scanning a photo to e-mail results in the file being saved as a .JPEG file.

NOTE: Different file types can be selected when using the scan software program.

Scanner resolution and color

If you are printing a scanned image, and the quality is not what you expected, you might have selected a resolution or color setting in the scanner software that does not match your needs. Resolution and color affect the following features of scanned images:

- Image clarity
- Texture of gradations (smooth or rough)
- Scan time
- File size

Scanning resolution is measured in pixels per inch (ppi).

NOTE: Scanning ppi levels are not interchangeable with printing dpi (dots per inch) levels.

Color, grayscale, and black and white define the number of colors possible. You can adjust the scanner hardware resolution to up to 1200 ppi. The software can perform an enhanced resolution up to 19,200 ppi. You can set color and grayscale at 1 bit (black and white), or at 8 bit (256 levels of gray or color) to 24 bit (true color).

The resolution and color guidelines table lists simple tips that you can follow to meet your scanning needs.

NOTE: Setting the resolution and color to a high value can create large files that take up disk space and slow the scanning process. Before setting the resolution and color, determine how you are going to use the scanned image.

NOTE: The best resolution for color and grayscale images is achieved by scanning from the flatbed scanner rather than from the automatic document feeder (ADF).

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Resolution and color guidelines

The following table describes the recommended resolution and color settings for different types of scan jobs.

Intended use	Recommended resolution	Recommended color settings
Fax	150 ppi	• Black and White
E-mail	150 ppi	• Black and White, if the image does not require smooth gradation • Grayscale, if the image requires smooth gradation • Color, if the image is in color
Edit text	300 ppi	• Black and White
Print (graphics or text)	600 ppi for complex graphics, or if you want to significantly enlarge the document 300 ppi for normal graphics and text 150 ppi for photos	• Black and White for text and line art • Grayscale for shaded or colored graphics and photos • Color, if the image is in color
Display on screen	75 ppi	• Black and White for text • Grayscale for graphics and photos • Color, if the image is in color

Color

You can set the color values to the following settings when scanning.

Setting	Recommended use
Color	Use this setting for high-quality color photos or documents in which the color is important.
Black and White	Use this setting for text documents.
Grayscale	Use this setting when file size is an issue or when you want a document or photograph to be scanned quickly.

Scan quality

Dirt, fingerprints, smudges, hair and other marks on the scanner glass slows scanner performance and affects the accuracy of special features such as fit-to-page and copy. To improve the quality of your copies and scans, clean the scanner glass. See Clean the scanner glass on page 195.

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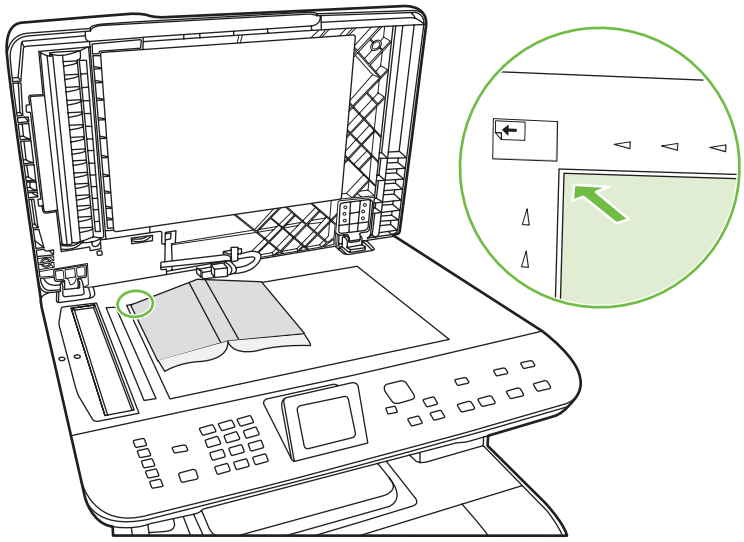
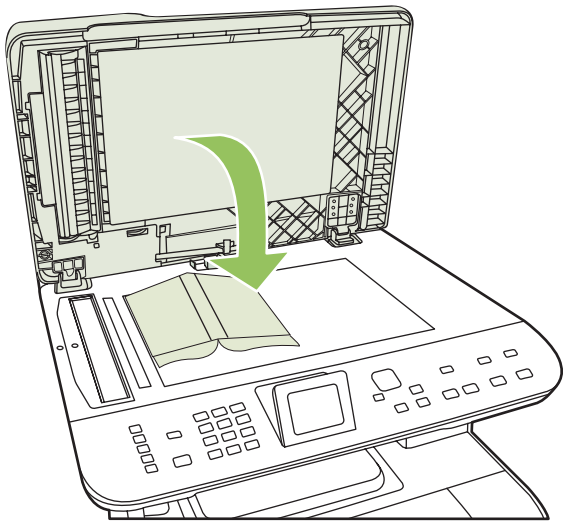
Scan a book

1. Lift the lid and place the book on the flatbed scanner with the page that you want to copy at the upper-left corner of the glass.



2. Gently close the lid.



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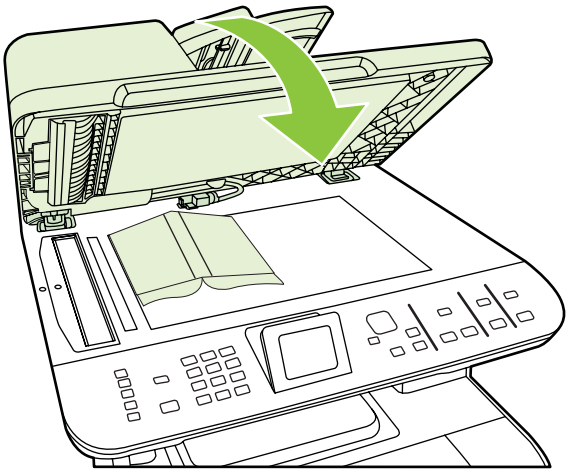
3. Gently press down on the lid to press the book to the flatbed scanner surface.



△ **CAUTION:** Pressing on the flatbed cover with too much force can break the lid hinges.

4. Scan the book by using one of the scanning methods.

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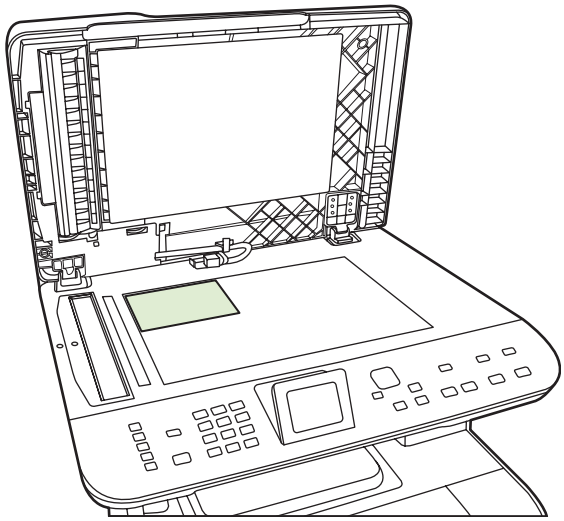
Scan a photo

1. Place the photo on the flatbed scanner with the picture-side down and the upper-left corner of the photo in the upper-left corner of the glass.



2. Gently close the lid.
3. Scan the photo by using one of the scanning methods.

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12 Fax (fax models only)

- Fax features
- Setup
- Change fax settings
- Use fax
- Solve fax problems

NOTE: Many of the functions that are described in this chapter also can be performed by using HP ToolboxFX or the embedded Web server. For more information, see the HP ToolboxFX online Help or Embedded Web server on page 180.

For information about the fax controls on the control panel, see Control panel on page 7.

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Fax features

The product has the following fax features, which are available from the control panel or from the product software.

- Fax Setup Wizard for easy fax configuration
- Plain-paper analog fax with 50-page automatic document feeder (ADF) and output tray of up to 125-page paper capacity
- 120-entry phone book and 8 speed dials from the control panel
- Automatic redial
- Digital storage of up to 400 fax pages
- Fax forwarding
- Delayed sending of faxes
- Ring features: Configure rings to answer and distinctive ring compatibility (service required through local telecommunications company)
- Fax confirmation report
- Junk fax blocking
- Fax security
- Eight cover page templates available

NOTE: Not all features are listed. The product software might need to be installed for some features to be available.

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Setup

Install and connect the hardware

Connect to a telephone line

The product is an analog device. HP recommends using the product on a dedicated analog telephone line. For information about using the product with other telephone environments, see Use fax on a DSL, PBX, ISDN, or VoIP system on page 134.

Connect additional devices

The product includes two fax ports:

- The “line out” port ( ), which connects the product to the wall telephone jack.
- The “telephone” port ( ), which connects additional devices to the product.

Telephones used in conjunction with the product can be employed in two ways:

- An extension phone is a phone plugged into the same phone line at another location.
- A downstream phone is one that is plugged into the product or a device that is plugged into the product.

Connect additional devices in the order that is described in the following steps. The output port for each device is connected to the input port of the next, forming a "chain". If you do not want to connect a specific device, skip the step that explains it and continue to the next device.

NOTE: Do not connect more than three devices to the telephone line.

NOTE: Voicemail is not supported with this product.

1. Unplug the power cords for all of the devices that you want to connect.
2. If the product is not yet connected to a telephone line, see the getting started guide before proceeding. The product should already be connected to a telephone jack.
3. Remove the plastic insert from the "telephone" port (the port that is marked with the telephone icon).
4. To connect an internal or external modem on a computer, plug one end of a telephone cord into the product “telephone” port ( ). Plug the other end of the telephone cord into the modem “line” port.

   NOTE: Some modems have a second “line” port to connect to a dedicated voice line. If you have two “line” ports, see your modem documentation to make sure that you connect to the correct “line” port.

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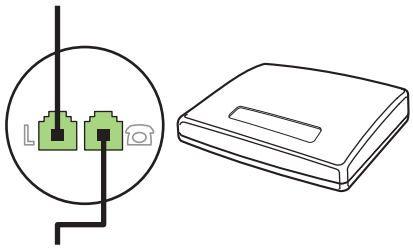
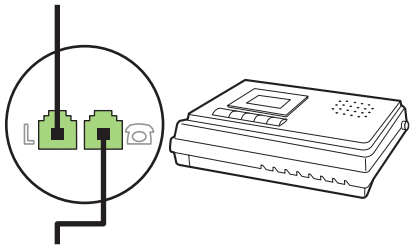
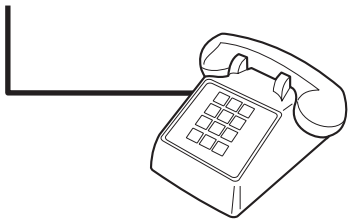
5. To connect a caller-ID box or a credit card scanner, plug a telephone cord into the previous device's "telephone" port. Plug the other end of the telephone cord into the caller-ID box "line" port.



6. To connect an answering machine, plug a telephone cord into the previous device's "telephone" port. Plug the other end of the telephone cord into the answering machine "line" port (also called a TAM).



7. To connect a telephone, plug a telephone cord into the previous device's "telephone" port. Plug the other end of the telephone cord into the telephone "line" port (also called Faxtel).



8. After you have finished connecting additional devices, plug all of the devices into their power sources.

Set up fax with a telephone answering machine

- Set the product rings-to-answer setting for at least one ring more than the number of rings for which the answering machine is set.
- If an answering machine is connected to the same telephone line but on a different jack (in another room, for example), it might interfere with the product's ability to receive faxes.

Setup for stand-alone fax

1. Unpack and set up the product.
2. Set the time, date, and fax header. See Configure fax settings on page 117.
3. Set other settings as necessary to configure for the product environment.

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Use fax set-up wizard on the PC

If you completed the software installation, you are ready to send faxes from your computer. If you did not complete the fax setup process at the time you installed the software, you can complete it at any time by using the Fax Setup Wizard.

1. Click **Start**, and then click **Programs**.
2. Click **HP**, click the name of the product, and then click **HP Fax Setup Wizard**.
3. Follow the onscreen instructions in the HP Fax Setup Wizard to set the time, date, and fax header, as well as several other settings.

Use the Fax Set-Up Utility

1. At the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Fax Set-up Utility**, and then press OK.
4. Follow the on-screen prompts and select the appropriate response for each question using the arrow keys.

Configure fax settings

The product fax settings can be set from the control panel, from HP ToolboxFX, or from the embedded Web server. At the initial set-up process, the HP Fax Setup Wizard can be used to configure the settings.

In the United States and many other countries/regions, setting the time, date, and other fax header information is a legal requirement.

Use the control panel to set the fax time, date, and header

To use the control panel to set the date, time, and header, complete the following steps:

1. At the control panel, press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow buttons to select **Time/Date**. Press OK.
4. Use the arrow buttons to select the 12-hour clock or 24-hour clock, and then press OK.
5. Use the alphanumeric buttons or the arrow buttons to enter the current time.
6. Complete one of the following:
   - For the 12-hour clock, use the arrow buttons to move past the fourth character. Use the up and down arrow buttons to select a.m. or p.m. Press OK.
   - For the 24-hour clock, press OK.
7. Use the alphanumeric buttons to enter the current date. Use two digits to specify the month, day, and year. Press OK.

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Use the control panel to set the fax header

1. At the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, then press OK.
3. Use the arrow buttons to select **Basic setup**, then press OK.
4. Use the arrow buttons to select **Fax Header**, then press OK.
5. Use the alphanumeric buttons to enter your fax number and your company name or header, and then press OK.

NOTE: The maximum number of characters for the fax number is 20; use up to 25 characters for the company name.

Use of common localized letters in fax headers

When using the control panel to enter your name in the header or to enter a name for a one-touch key, speed-dial entry, or group-dial entry, press the appropriate alphanumeric button repeatedly until the letter that you need appears. Then, press the > button to select that letter and move to the next space. The following table shows which letters and numbers appear on each alphanumeric button.

Key number	Characters
1	1
2	A B C a b c 2
3	D E F d e f 3
4	G H I g h i 4
5	J K L j k l 5
6	M N O m n o 6
7	P Q R S p q r s 7
8	T U V t u v 8
9	W X Y Z w x y z 9
0	0
*	( ) + - . / , " * & @ R W
#	space # ,

NOTE: Use > to move the cursor on the control panel and use < to delete characters.

Manage the phone book

You can store frequently dialed fax numbers or groups of fax numbers as speed dials or group-dial entries.

In the product phone book, a total of 120 entries are available for speed dials and group-dial entries. For example, if you program 100 of the entries as speed-dials, the remaining 20 can be used for group-dials.

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NOTE: Speed dials and group-dial entries are more easily programmed from HP ToolboxFX or the embedded Web server. For more information, see the HP ToolboxFX online Help or Embedded Web server on page 180.

Use phone-book data from other programs

NOTE: Before a phone book from another program can be imported, you must use the export feature in that other program.

HP ToolboxFX can import contact information from other software program phone books. The following table shows which programs are supported for HP ToolboxFX.

Program	Description
Microsoft Outlook	Personal Address Book (PAB) entries, Contacts entries, or both combined may be selected. Individuals and groups from the PAB are combined with individuals from Contacts only if the combined option is selected. If a Contacts entry has both a home and a business fax number, two entries will be displayed. The “name” of these two entries will be modified. “:(B)” will be added to the name in the business entry and “:(H)” will be added to the name in the home entry. If a duplicate entry occurs (one from Contacts and one from the PAB with the same name and fax number), a single entry will be displayed. However, if an entry exists in the PAB with a duplicate in Contacts, and the Contacts entry has both a business and a home fax number, all three entries will be displayed.
Windows Address Book	The Windows Address Book (WAB), used by Outlook Express and Internet Explorer, is supported. If an individual has both a home and a business fax number, two entries will be displayed. The “name” of these two entries will be modified. “:(B)” will be added to the name in the business entry and “:(H)” will be added to the name in the home entry.
Goldmine	Goldmine version 4.0 is supported. HP ToolboxFX imports the file last used by Goldmine.
Symantec Act!	Act! versions 4.0 and 2000 are supported. HP ToolboxFX imports the database last used by Act!.

Complete the following steps to import a phone book:

1. Open HP ToolboxFX.
2. Click **Fax**, and then click **Fax Phone Book**.
3. Browse to the program phone book, and then click **Import/Export Phone Book**.
4. Click **Import** and choose **Next**.

Delete phone book

You can delete all speed dials and group-dial entries that are programmed in the product.

CAUTION: After speed dials and group-dial entries are deleted, they cannot be recovered.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Phone Book**, and then press OK.
3. Use the arrow buttons to select **Delete All Entries**, and then press OK.
4. Press OK to confirm the deletion.

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Special dialing symbols and options

You can insert pauses into a fax number that you are dialing or programming to a one-touch key, speed-dial entry, or group-dial entry. Pauses are often needed when dialing internationally or connecting to an outside line.

- **Insert a dialing pause**: Press # (Pause) repeatedly until a comma (**,**) appears on the control-panel display, indicating that the pause will occur at that point in the dialing sequence. This is a 2-second pause (3 seconds in France).
- **Insert a pause for dial tone**: Press * (Symbols) repeatedly until **W** appears on the control-panel display to have the product wait for a dial tone before dialing the remainder of the telephone number.
- **Insert a hook flash**: Press * (Symbols) repeatedly until **R** appears on the control-panel display to have the product perform a hook flash.

Manage speed dials

Create and edit speed dials

Speed dials 1 through 8 are also associated with their corresponding one-touch keys on the control panel. The one-touch keys can be used for speed dials or group-dial entries. A maximum of 50 characters can be entered for a single fax number.

NOTE: To gain access to all of the speed dials, you must use the Shift button. Speed dials 5 through 8 are all available by pressing Shift and the associated one-touch key on the control panel.

Complete the following steps to program speed dials from the control panel:

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Phone Book**, and then press OK.
3. Use the arrow buttons to select **Individual Setup**. Press OK.
4. Press OK to select **Add**.
5. Use the alphanumeric buttons to enter a name for the fax number. To do so, repeatedly press the alphanumeric button for the letter that you need until the letter appears. (For a list of characters, see Use of common localized letters in fax headers on page 118.)

   NOTE: To insert punctuation, press the asterisk (*) button repeatedly until the character that you want appears, and then press the > button to go to the next space.

6. Use the alphanumeric buttons to enter the fax number. Include any pauses or other needed numbers, such as an area code, an access code for numbers outside a PBX system (usually a 9 or 0), or a long distance prefix.

   NOTE: When entering a fax number, press Pause until a comma (**,**) appears if you want to insert a pause in the dialing sequence, or press * until **W** appears if you want the product to wait for a dial tone.

7. Press OK.
8. Press OK to save the information.
9. If you have more speed dials to program, repeat steps 1 through 10.

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Delete speed dials

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Phone Book**, and then press OK.
3. Use the arrow buttons to select **Delete entry**, and then press OK.
4. Use the alphanumeric buttons or the arrow buttons to enter the number of the speed-dial entry you want to delete, and then press OK.

Manage group-dial entries

Create and edit group-dial entries

1. Assign a speed-dial entry to each fax number that you want in the group. (For instructions, see Create and edit speed dials on page 120.)
2. On the control panel, press Fax Menu.
3. Use the arrow buttons to select **Phone Book**, and then press OK.
4. Use the arrow buttons to select **Group setup**, and then press OK.
5. Use the alphanumeric buttons to enter the number that you want to associate with this group, and then press OK. Selecting 1 through 8 also associates the group with the corresponding one-touch key.
6. Use the alphanumeric buttons to enter a name for the group, and then press OK.
7. Press a one-touch key, and then press OK again to confirm the addition. Repeat this step for each group member you want to add.

   -or-

   Use the up and down arrows to select an entry and press OK to add the entry to the group. Press OK again when done adding entries.
8. When you are finished, press OK.
9. If you have more group-dial entries to assign, press OK, and then repeat steps 1 through 9.

Delete an individual from a group-dial entry

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Phone Book**, and then press OK.

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3. To delete a single entry:

   a. Use the arrow buttons to select **Delete entry**, and then press OK.

   b. Use the arrow buttons to select the individual or group that you want to delete from the list on the screen.

   c. Press OK to confirm the deletion.

4. To delete all entries:

   a. Use the arrow buttons to select **Delete All Entries**, and then press OK.

   b. Press OK to confirm the deletion.

NOTE: Deleting a speed-dial entry also deletes that entry from any group-dial entries that included that speed-dial entry.

Set fax polling

If someone else has set up a fax to be polled, you can request that the fax be sent to your product. (This is known as polling another machine).

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Receive**, and then press OK.
3. Use the arrow buttons to select **Polling receive**, and then press OK.
4. Using the alphanumeric buttons, enter the number that you want to poll, then press OK.

The product dials the other fax machine and requests the fax.

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Change fax settings

Set the sound-volume settings

Control the volume of the fax sounds from the control panel. You can make changes to the following sounds:

- The fax sounds that are associated with incoming and outgoing faxes
- The ring for incoming faxes

The factory-set default for the fax-sounds volume is **Soft**.

Set the phone-line volume

Complete the following steps to change the fax-sounds volume.

1. On the control panel press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow buttons to select **Volume Settings**, and then press OK.
4. Use the arrow buttons to select **Phone line volume**, and then press OK.
5. Use the arrow buttons to select **Off**, **Soft**, **Medium**, or **Loud**.
6. Press OK to save the selection.

Set the ring volume

When the product is initially receiving a call, a ring alert is audible. The ring duration length is based on the local telephone company ring-pattern length. The factory-set default for the ring volume is **Soft**.

1. Press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow buttons to select **Volume Settings**, and then press OK.
4. Use the arrow buttons to select **Ring volume**, and then press OK.
5. Use the arrow buttons to select **Off**, **Soft**, **Medium**, or **Loud**.
6. Press OK to save the selection.

Send fax settings

Set a dial prefix

A dial prefix is a number or group of numbers that are automatically added to the beginning of every fax number you enter at the control panel or from the software. The maximum number of characters for a dial prefix is 50.

The default setting is **Off**. Turn this setting on to enter a prefix if, for example, you have to dial a number such as 9 to get a telephone line outside of your company telephone system. While this setting is

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activated, you can dial a fax number without the dial prefix by using manual dial. For instructions, see Manual dial faxing on page 138.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Basic setup**, and then press OK.
4. Use the arrow buttons to select **Dial Prefix**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.
6. If you selected **On**, use the alphanumeric buttons to enter the prefix, and then press OK. You can use numbers, pauses, and dialing symbols.

Set the dial-tone detection

Normally, the product begins dialing a fax number immediately. If you are using the product on the same line as your telephone, turn on the detect-dial-tone setting. This prevents the product from sending a fax while someone is on the telephone.

The factory-set default for detect dial tone is **On** for France and Hungary, and **Off** for all other countries/regions.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Detect dial tone**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

Set autoredial

If the product was unable to send a fax because the receiving fax machine did not answer or was busy, the product attempts to redial based on the redial-on-busy, redial-on-no-answer, and redial-on-communication-error options. Use the procedures in this section to turn these options on or off.

Set the redial-on-busy option

If this option is turned on, the product redials automatically if it receives a busy signal. The factory-set default for the redial-on-busy option is **On**.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Redial if busy**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

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Set the redial-on-no-answer option

If this option is turned on, the product redials automatically if the receiving machine does not answer. The factory-set default for the redial-on-no-answer option is **Off**.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Redial if no answer**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

Set the redial-on-communication-error option

If this option is turned on, the product redials automatically if some sort of communication error occurs. The factory-set default for the redial-on-communication-error option is **On**.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Redial Comm. Error**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

Set light/dark and resolution

Set the default light/dark (contrast) setting

The contrast affects the lightness and darkness of an outgoing fax as it is being sent.

The default light/dark setting is the contrast that is normally applied to items that are being faxed. The slider is set to the middle as the default setting.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Default lighter/darker**, and then press OK.
5. Use the < button to move the slider to the left to make the fax lighter than the original, or use the > button to move the slider to the right to make the fax darker than the original.
6. Press OK to save the selection.

Set resolution settings

NOTE: Increasing the resolution increases the fax size. Larger faxes increase the send time and could exceed the available memory in the product.

The factory-set default resolution setting is **Fine**.

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Use this procedure to change the default resolution for all fax jobs to one of the following settings:

- **Standard**: This setting provides the lowest quality and the fastest transmission time.
- **Fine**: This setting provides a higher resolution quality than **Standard** that is usually appropriate for text documents.
- **Superfine**: This setting is best used for documents that mix text and images. The transmission time is slower than **Fine** but faster than **Photo**.
- **Photo**: This setting produces the best images, but greatly increases the transmission time.

Set the default resolution setting

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Default Fax Resolution**, and then press OK.
5. Use the arrow buttons to change the resolution setting.
6. Press OK to save the selection.

Set the resolution for the current fax job

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select Send, and then press OK.
3. Use the arrow buttons to select Fax Resolution, and then press OK.
4. Use the arrow buttons to select the appropriate resolution setting.
5. Press OK to save the selection.

Set the default glass-size setting

This setting determines which paper size the flatbed scanner scans when you send a fax from the scanner. The factory-set default is determined by the country/region in which you purchased the product.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Default glass size**, and then press OK.
5. Use the arrow buttons to select the correct paper size setting: **A4** or **Letter**.
6. Press OK to save the selection.

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Set tone-dialing or pulse-dialing

Use this procedure to set the product to tone-dialing or pulse-dialing mode. The factory-set default is **Tone**. Do not change this setting unless you know that the telephone line cannot use tone dialing.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Dialing Mode**, and then press OK.
5. Use the arrow buttons to select **Tone** or **Pulse**, and then press OK to save the selection.

NOTE: The pulse-dialing option is not available in all countries/regions.

Set billing codes

If the billing codes feature has been turned on, the user will be asked to enter a billing code for each fax. The billing code count is increased for each fax page that is sent. This includes all types of faxes except for poll-received, fax-forwarded, or computer-downloaded faxes. For an undefined group or a group-dial fax, the billing code count is increased for each successful fax that is sent to each destination. To print a report that shows the total for each billing code, see Print the billing-code report on page 127.

The factory-set default for the billing-code setting is **Off**. The billing code can be any number from 1 through 250.

Set the billing-code setting

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Billing codes**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

Use billing codes

1. Load the document in the automatic document feeder (ADF) input tray or on the flatbed scanner.
2. On the control panel, enter the phone number manually, by speed-dial, or by group-dial entry.
3. Press Start Fax.
4. Enter the billing code, and then press Start Fax.

The fax job is sent and recorded in the billing-code report. For information about printing the billing-code report, see Print the billing-code report on page 127.

Print the billing-code report

The billing-code report is a printed list of all of the fax billing codes and the total number of faxes that have been billed to each code. The billing-code setting must be turned on in order to access this report.

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NOTE: After this report is printed, all billing data is deleted.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Billing report**, and then press OK. The product exits the menu settings and prints the report.

Receive fax settings

Set or change number of rings-to-answer

When the answer mode is set to **Automatic**, the product rings-to-answer setting determines the number of times the telephone rings before the product answers an incoming call.

If the product is connected to a line that receives both fax and voice calls (a shared line) and that also uses an answering machine, you might need to adjust the rings-to-answer setting. The number of rings-to-answer for the product must be greater than the rings-to-answer on the answering machine. This allows the answering machine to answer the incoming call and record a message if it is a voice call. When the answering machine answers the call, the product listens to the call and automatically answers it if it detects fax tones.

The default setting for rings-to-answer is five for the U.S. and Canada, and two for other countries/regions.

Use the rings-to-answer setting

Use the following table to determine the number of rings-to-answer to use.

Type of telephone line	Recommended rings-to-answer setting
Dedicated fax line (receiving only fax calls)	Set to a number of rings within the range shown on the control-panel display. (The minimum and maximum number of rings allowed varies by country/region.)
One line with two separate numbers and a ring-pattern service	One or two rings. (If you have an answering machine or computer voicemail for the other telephone number, make sure that the product is set to a greater number of rings than the answering system. Also, use the distinctive-ring feature to differentiate between voice and fax calls. See Set up distinctive ring on page 130.)
Shared line (receiving both fax and voice calls) with only an attached telephone	Five rings or more.
Shared line (receiving both fax and voice calls) with an attached answering machine or computer voicemail	Two rings more than the answering machine or computer voicemail.

Set the number of rings-to-answer

To set or change the number of rings-to-answer, use the following steps:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Basic setup**, and then press OK.

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4. Use the arrow buttons to select **Rings to answer**, and then press OK.
5. Use the alphanumeric buttons or the up and down arrows to enter the number of rings-to-answer, and then press OK.

Set the answer mode

Depending on the situation, set the product answer mode to **Automatic** or **Manual**. The factory-set default is **Automatic**.

- **Automatic:** In this answer mode, the product answers incoming calls after a specified number of rings or upon recognition of special fax tones. To specify the number of rings, see Set the number of rings-to-answer on page 128.
- **TAM:** In this answer mode, the product has a telephone answering machine (TAM) attached to the line-out port. The product does not answer incoming calls, but listens for fax call tones after the TAM has answered the call.
- **Fax/Tel:** In this answer mode, the product answers an incoming call and determines if the call is a voice call or fax call. If the call is a fax call, the product receives the fax from the call. If the call is a voice call, the product generates an audible ring to indicate an incoming voice call that you must answer on an extension phone.
- **Manual:** In this answer mode, the product never answers calls. You must start the fax-receiving process yourself, either by pressing Start Fax on the control panel or by picking up a telephone that is connected to that line and dialing 1-2-3.

To set or change the answer mode, complete the following steps:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Basic setup**, and then press OK.
4. Press OK to select **Answer mode**.
5. Use the arrow buttons to select the answer mode, and then press OK.

The control-panel display shows the answer mode setting that you specified.

Set fax forwarding

You can set your product to forward incoming faxes to another fax number. When the fax arrives at your product, it is stored in the memory. The product then dials the fax number that you have specified and sends the fax. If the product cannot forward a fax because of an error (for example, the number is busy) and repeated redial attempts are unsuccessful, your product prints the fax.

If the product runs out of memory while receiving a fax, it terminates the incoming fax and only forwards the pages and partial pages that have been stored in the memory.

When it is using the fax-forwarding feature, the answer mode must be set to **Automatic**.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Receive**, and then press OK.
3. Use the arrow buttons to select **Forward fax**, and then press OK.

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4. Use the arrow buttons to select **On** or **Off**, and then press OK.

5. If you turn on the fax-forwarding feature, use the alphanumeric buttons to specify the fax number where the fax is to be sent, and then press OK to save the selection.

Set up distinctive ring

Ring-pattern or distinctive-ring service is available through some local telephone companies. The service allows you to have more than one telephone number on a single line. Each telephone number has a unique ring pattern, so that you can answer voice calls and the product can answer fax calls.

If you subscribe to a ring-pattern service with a telephone company, you must set the product to answer the correct ring pattern. Not all countries/regions support unique ring patterns. Contact the telephone company to determine if this service is available in your country/region.

NOTE: If you do not have ring-pattern service and you change the ring-pattern settings to something other than the default, **All Rings**, the product might not be able to receive faxes.

The settings are as follows:

- **All Rings**: The product answers any calls that come through the telephone line.
- **Single**: The product answers any calls that produce a single-ring pattern.
- **Double**: The product answers any calls that produce a double-ring pattern.
- **Triple**: The product answers any calls that produce a triple-ring pattern.
- **Double and Triple**: The product answers any calls that produce a double-ring or triple-ring pattern.

To change ring patterns for call answering, complete the following steps:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Basic setup**, and then press OK.
4. Use the arrow buttons to select **Distinctive Ring**, and then press OK.
5. Use the arrow buttons to select the ring pattern that you want, and then press OK.
6. After product installation is complete, ask someone to send a fax to you in order to verify that the ring-pattern service is working correctly.

Use autoreduction for incoming faxes

If the fit-to-page option is turned on, the product automatically reduces long faxes up to 75% to fit the information on the default paper size (for example, the fax is reduced from legal to letter size).

If the fit-to-page option is turned off, long faxes print at full size on multiple pages. The factory-set default for incoming fax autoreduction is **On**.

If you have the stamp-received faxes option turned on, you might also want to turn on autoreduction. This reduces the size of the incoming faxes slightly, and prevents the page-stamp from forcing a fax onto two pages.

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NOTE: Make sure that the default media size setting matches the size of the media that is loaded in the tray.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Fit to page**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK to save the selection.

Set the default fax reprint settings

The default fax reprint setting is **On**. To change this setting from the control panel, complete the following steps:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Allow Fax Reprint**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK.

NOTE: To reprint a fax, see Reprint a fax on page 145.

Create stamp-received faxes

The product prints the sender identification information at the top of each received fax. You can also choose to have your own header information included on each received fax to confirm the date and time that the fax was received. The factory-set default for stamp-received faxes is **Off**.

NOTE: This option applies only to received faxes that the product prints.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Stamp faxes**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK to save the selection.

Block or unblock fax numbers

If you do not want to receive faxes from specific people or businesses, you can block as many as 30 fax numbers by using the control panel. When you block a fax number and someone from that number sends you a fax, the control-panel display indicates that the number is blocked, the fax is received and discarded. The fax does not print, and is not saved in memory. Faxes from blocked fax numbers appear in the fax activity log with a “discarded” designation. You can unblock blocked fax numbers individually or all at one time.

NOTE: The sender of a blocked fax is not notified that the fax failed.

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To print a list of numbers that you have blocked or the fax activity log, see Print individual fax reports on page 150.

Complete the following steps to block or unblock fax numbers by using the control panel:

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Receive**, and then press OK.
3. Use the arrow buttons to select **Block junk faxes**, and then press OK.
4. To block a fax number, use the arrow buttons to select **Add number**, and then press OK. Enter the fax number exactly as it appears in the header (including spaces), and then press OK.

   To unblock a single fax number, use the arrow buttons to select **Delete number**, and then press OK. Use the arrow buttons to select the fax number that you want to delete, and then press OK to confirm the deletions.

   -or-

   To unblock all blocked fax numbers, use the arrow buttons to select **Delete all numbers**, and then press OK. Press OK again to confirm the deletions.

Make an extension telephone available to receive faxes

With this setting turned on, you can alert the product to pick up the incoming fax call by pressing 1-2-3 sequentially on the telephone keypad. The default setting is **On**. Turn this setting off only if you use pulse dialing or if you have a service from your telephone company that also uses the 1-2-3 sequence. The telephone company service does not work if it conflicts with the product.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Extension Phone**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK to save the selection.

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Use fax

Fax software

Supported fax programs

The PC fax program that came with the product is the only PC fax program that works with the product. In order to continue to use a PC fax program previously installed on the computer, it must be used with the modem that is already connected to the computer; it will not function through the product modem.

Available cover-page templates

Several business and personal fax cover-page templates are available in the HP LaserJet Send Fax software program.

NOTE: Cover-sheet templates cannot be altered. While fields within the templates may be edited, the templates themselves are fixed forms.

Customize a fax cover sheet

1. Open the HP LaserJet Send Fax software program.
2. In the **Fax To** section, provide the recipient fax number, name, and company.
3. In the **Resolution** section, select a resolution setting.
4. In the **Include With Fax** section, select **Cover Page**.
5. Add more information in the **Notes** and **Subject** text boxes.
6. In the **Cover Page Template** drop-down box, select a template.
7. Do one of the following:
   - Click **Send Now** to send the fax without previewing the cover page.
   - Click **Preview** to view the cover page prior to sending the fax.

Cancel a fax

Use these instructions to cancel a single fax that is currently dialing or a fax that is being transmitted or received.

Cancel the current fax

Press Cancel on the control panel. Any pages that have not been transmitted are canceled. Pressing Cancel also stops group-dial jobs.

Cancel a pending fax job

Use this procedure to cancel a fax job in the following situations:

- The product is waiting to redial after encountering a busy signal, an unanswered call, or a communication error.
- The fax is scheduled to be sent at a future time.

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Use the following steps to cancel a fax job by using the **Fax Job status** menu:

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Send**, and then press OK.
3. Use the arrow buttons to select **Fax Job status**, and then press OK.
4. Use the arrow buttons to scroll through pending jobs until you reach the job that you want to clear.
5. Press OK to select the job that you want to cancel.

Delete faxes from memory

Use this procedure only if you are concerned that someone else has access to your product and might try to reprint faxes from the memory.

△ **CAUTION:** In addition to clearing the reprint memory, this procedure clears any fax that is currently being sent, unsent faxes that are pending redial, faxes that are scheduled to be sent at a future time, and faxes that are not printed or forwarded.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Service**, and then press OK.
3. Use the arrow buttons to select **Fax Service**, and then press OK.
4. Use the arrow buttons to select **Clear saved faxes**, and then press OK.
5. Press OK to confirm the deletion.

Use fax on a DSL, PBX, ISDN, or VoIP system

HP products are designed specifically for use with traditional analog phone services. They are not designed to work on DSL, PBX, ISDN lines, or VoIP services, but they might work with the proper setup and equipment.

NOTE: HP recommends discussing DSL, PBX, ISDN, and VoIP setup options with the service provider.

The HP LaserJet product is an analog device that is not compatible with all digital phone environments (unless a digital-to-analog converter is used). HP does not guarantee that the product will be compatible with digital environments or digital-to-analog converters.

DSL

A digital subscriber line (DSL) uses digital technology over standard copper telephone wires. This product is not directly compatible with digital signals. However, if the configuration is specified during DSL setup, the signal can be separated so that some of the bandwidth is used to transmit an analog signal (for voice and fax) while the remaining bandwidth is used to transmit digital data.

NOTE: Not all fax products are compatible with DSL services. HP does not guarantee that the product will be compatible with all DSL service lines or providers.

The DSL modem requires a high-pass filter for faxing. The service provider typically provides a low-pass filter, for normal telephone wiring.

NOTE: Contact the DSL provider for more information or for assistance.

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PBX

The product is an analog device that is not compatible in all digital phone environments. Digital-to-analog filters or converters may be needed for faxing functionality. If faxing issues occur in a PBX environment, it might be necessary to contact the PBX provider for assistance. HP does not guarantee that the product will be compatible with digital environments or digital-to-analog converters.

Contact the PBX provider for more information and for assistance.

ISDN

Contact the ISDN provider for more information and for assistance.

VoIP

Voice over internet protocol (VoIP) services are often not compatible with fax machines unless the provider explicitly states that it supports fax over IP services.

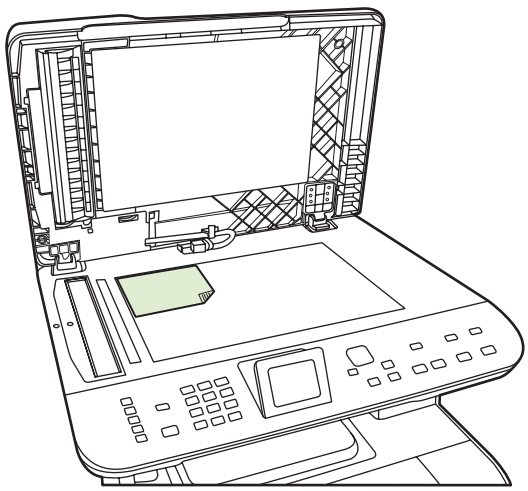
If the product experiences problems getting a fax to work on a VoIP network, verify that all cables and settings are correct. Decreasing the fax-speed setting might allow the product to send a fax over a VoIP network.

If faxing problems continue, contact the VoIP provider.

Send a fax

Fax from the flatbed scanner

1. Make sure that the automatic document feeder (ADF) contains no media.
2. Lift the flatbed scanner cover.
3. Place the original document face-down on the flatbed scanner with the upper-left corner of the document at the corner indicated by the icon on the scanner.



4. Gently close the lid.
5. Use the alphanumeric buttons on the control panel to dial the number.

   -or-

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If the fax number you are calling has been assigned to a one-touch key, press that key.

-or-

If the fax number you are calling has a speed dial or group-dial entry, press Fax Menu, then use the arrow keys to select **Phone Book**. Choose **Select an entry** and use the alphanumeric buttons to specify the speed dial or group-dial entry, and then press OK.

6. On the control panel, press Start Fax.

   The control-panel display shows the following message: **Send from flatbed scanner?**.

7. Select **Yes**.

8. After scanning the page, the product control-panel display shows the following message: **Scan another page?**.

9. If you have more pages to scan, select **Yes**, and then repeat step 3 for each page of the fax job.

   -or-

   If you are finished, select **No**.

Fax from the automatic document feeder (ADF)

NOTE: The ADF capacity is up to 50 sheets of 80 g/m^2 or 20 lb media.

CAUTION: To prevent damage to the product, do not use an original that contains correction tape, correction fluid, paper clips, or staples. Also, do not load photographs, originals smaller than 5x5, or fragile originals into the ADF. Use the flatbed glass to scan these items.

1. Insert the top-end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be copied on top of the stack.

   If the media is longer than Letter- or A4-sized paper, pull out the ADF input tray extension to support the media.

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2. Slide the stack into the ADF until it does not move any farther.

Document loaded appears on the control-panel display.

3. Adjust the media guides until they are snug against the media without restricting movement.

4. Use the alphanumeric buttons on the control panel to dial the number.

-or-

If the fax number you are calling has been assigned to a one-touch key, press that key.

-or-

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If the fax number you are calling has a speed dial or group-dial entry, press Fax Menu, then use the arrow keys to select **Phone Book**. Choose **Select an entry** and use the alphanumeric buttons to specify the speed dial or group-dial entry, and then press OK.

5. On the control panel, press Start Fax. The product starts the fax job.

Manual dial faxing

Usually, the product dials after you press Start Fax. At times, however, you might want the product to dial each number as you press it. For example, if you are charging your fax call to a calling card, you might need to dial the fax number, wait for the acceptance tone of your telephone company, and then dial the calling card number. When dialing internationally, you might need to dial part of the number and then listen for dial tones before continuing to dial.

Dial manually with the automatic document feeder (ADF)

1. Load the document into the automatic document feeder (ADF) input tray.
2. On the control panel, press Start Fax.
3. Begin dialing.

NOTE: The product dials the number as you press each digit. This allows you to wait for pauses, dial tones, international-access tones, or calling-card-acceptance tones before continuing to dial.

Dial manually with the flatbed scanner

1. On the control panel, press Start Fax.

   The control-panel display shows the following message: **Send from flatbed scanner?**.
2. Select **Yes**. The control-panel display shows the following message: **Load page: X Press OK**, where X is the page number.
3. Scan a page into memory by placing the sheet print-side-down on the flatbed scanner and pressing OK. After scanning the page, the product control-panel display shows the following message: **Scan another page?**.
4. If you have more pages to scan, select **Yes**, and then repeat step 3 for each page of the fax job.

   -or-

   If you are finished, select **No**, and then go to the next step.
5. When all pages are scanned into memory, begin dialing. The product dials the number as you press each digit. This allows you to wait for pauses, dial tones, international access tones, or calling card acceptance tones before continuing to dial.

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Send a fax to a group manually (ad hoc faxing)

Use the following instructions to send a fax to a group of recipients that has not been assigned a group-dial entry:

1. Load the document into the automatic document feeder (ADF) input tray or on the flatbed scanner.
2. Use the alphanumeric buttons.

   -or-

   If the fax number that you are calling has been assigned a speed-dial entry, press Fax Menu, then select **Phone Book**. Choose **Select an entry** and use the alphanumeric buttons to specify the speed-dial entry, and then press OK.
3. Press OK.
4. To continue dialing numbers, repeat steps 2 and 3.

   -or-

   If you are finished dialing numbers, go to the next step.
5. Press Start Fax. If the pages that you want to send are in the ADF, then faxing begins automatically.
6. If the product ADF sensor detects that no document is loaded into the ADF input tray, **Send from flatbed scanner?** appears on the control-panel display. To send the fax from the flatbed scanner, select **Yes**, and then press OK.

   Load Page: X Press OK appears on the control-panel display.
7. If you have already placed the document on the flatbed scanner, press OK (or place the document on the flatbed scanner and then press OK).

   After scanning the page, **Another page?** appears on the control-panel display.
8. If you have more pages to scan, select **Yes**, and then repeat step 7 for each page of the fax job.

   -or-

   If you are finished, select **No**.

The product sends the fax to each fax number. If a number in the group is busy or does not answer, the product redials that number based on the redial setting. If all redial attempts fail, the product updates the fax activity log by adding the error, and then it proceeds to the next number in the group.

Redial manually

1. Load the document into the automatic document feeder (ADF) input tray or onto the flatbed scanner.
2. On the control panel, press Fax Menu.
3. Use the arrow keys to select **Send** and press OK.
4. Use the arrow keys to select **Redial** and press OK.
5. Press Start Fax. If the pages that you want to send are in the ADF, then faxing begins automatically.

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6. If the product ADF sensor detects that no document is loaded into the ADF input tray, **Send from flatbed scanner?** appears on the control-panel display. To send the fax from the flatbed scanner, select **Yes**, and then press OK.

   After you press OK, **Load page: X Press OK** appears on the control-panel display.

7. If you have already placed the document on the flatbed scanner, press OK (or place the document on the flatbed scanner and then press OK).

   After scanning the page, **Another page?** appears on the control-panel display.

8. If you have more pages to scan, select **Yes**, and then repeat step 7 for each page of the fax job.

   -or-

   If you are finished, select **No**.

The product sends the fax to the number that it redialed. If the number is busy or does not answer, the product redials the number based on its redial setting. If all redial attempts fail, the product updates the fax activity log by adding the error.

Use speed dials and group-dial entries

Send a fax by using a speed dial

1. Load the document into the automatic document feeder (ADF) input tray or on the flatbed scanner.
2. Press the one-touch key for the speed dial.

   -or-

   Press Fax Menu, then select **Phone Book**. Choose **Select an entry** and use the alphanumeric buttons to specify the speed-dial entry, and then press OK.

3. Load the document into the automatic document feeder (ADF) input tray or on the flatbed scanner.
4. Press Start Fax. If the pages that you want to send are in the ADF, then faxing begins automatically.
5. If the product ADF sensor detects that no document is loaded into the ADF input tray, **Send from flatbed scanner?** appears on the control-panel display. To send the fax from the flatbed scanner, select **Yes**, and then press OK.

   After you press OK, **Load page: X Press OK** appears on the control-panel display.

6. If you have already placed the document on the flatbed scanner, press OK (or place the document on the flatbed scanner and then press OK).

   After scanning the page, **Scan another page?** appears on the control-panel display.

7. If you have more pages to scan, select **Yes**, and then repeat step 6 for each page of the fax job.

   -or-

   If you are finished, select **No**.

When the last page of the fax has exited the product, you can start sending another fax, copying, or scanning.

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You can assign a speed dial to numbers that you use regularly. See Create and edit speed dials on page 120. If you have electronic phone books available, you might be able to use them to select recipients. Electronic phone books are generated by using third-party software programs.

Send a fax by using a group-dial entry

1. Load the document into the automatic document feeder (ADF) input tray or on the flatbed scanner.
2. Press the one-touch key for the group.

   -or-

   Press Fax Menu, then select **Phone Book**. Choose **Select an entry** and use the alphanumeric buttons to specify the group-dial entry, and then press OK.
3. Press Start Fax. If the pages that you want to send are in the ADF, then faxing begins automatically.
4. If the product ADF sensor detects that no document is loaded into the ADF input tray, **Send from flatbed scanner?** appears on the control-panel display. To send the fax from the flatbed scanner, select **Yes**, and then press OK.

   After you press OK, **Load page: X Press OK** appears on the control-panel display.
5. If you have already placed the document on the flatbed scanner, press OK (or place the document on the flatbed scanner and then press OK).

   After scanning the page, **Scan another page?** appear on the control-panel display.
6. If you have more pages to scan, select **Yes**, and then repeat step 5 for each page of the fax job.

   -or-

   If you are finished, select **No**.

The product scans the document into memory and sends the fax to each number specified. If a number in the group is busy or does not answer, the product redials the number based on its redial setting. If all redial attempts fail, the product updates the fax activity log with the error and proceeds to the next number in the group.

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Send a fax from the software

This section contains basic instructions for sending faxes by using the software that came with the product. All other software-related topics are covered in the software Help, which can be opened from the software-program **Help** menu.

You can fax electronic documents from a computer if you meet the following requirements:

- The product is connected directly to the computer or connected to the computer over a TCP/IP network.
- The product software is installed on the computer.
- The computer operating system is Microsoft Windows XP, Windows Vista, Mac OS X v10.3, or Mac OS X v10.4.

Send a fax from the software (Windows XP or Vista)

The procedure to send a fax varies according to your specifications. The most typical steps follow.

1. Click **Start**, click **Programs** (or **All Programs** in Windows XP), and then click **Hewlett-Packard**.
2. Click **HP LaserJet product**, and then click **Send fax**. The fax software appears.
3. Enter the fax number of one or more recipients.
4. Load the document in the automatic document feeder (ADF) input tray.
5. Include a cover page. (This step is optional.)
6. Click **Send Now**.

Send a fax from the software (Mac OS X v10.3)

1. Load the document into the automatic document feeder (ADF) input tray or the flatbed scanner.
2. Open HP Director and click **Fax**. The fax software appears.
3. Select **Fax** from the **Print** dialog.
4. Enter the fax number of one or more recipients.
5. Include a cover page (this step is optional).
6. Click **Fax**.

Send a fax from the software (Mac OS X v10.4)

Using Mac OS X v10.4, you can choose between two methods of sending faxes from the product software.

To send a fax by using HP Director complete the following steps:

1. Load the document into the automatic document feeder (ADF) input tray or the flatbed scanner.
2. Open HP Director by clicking the icon in the dock, and then click **Fax**. The Apple print dialog appears.
3. Select **Fax PDF** from the **PDF** pop-up menu.
4. Enter the fax number of one or more recipients under **To**.

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5. Select the product under **Modem**.
6. Click **Fax**.

To send a fax by printing to a fax driver, complete the following steps:

1. Open the document that you want to fax.
2. Click **File** and then click **Print**.
3. Select **Fax PDF** from the **PDF** pop-up menu.
4. Enter the fax number of one or more recipients under **To**.
5. Select the product under **Modem**.
6. Click **Fax**.

Send a fax from a third-party software program, such as Microsoft Word (all operating systems)

1. Open a document in a third-party program.
2. Click the **File** menu, and then click **Print**.
3. Select the fax print driver from the printer driver drop-down list. The fax software appears.
4. Complete one of the following procedures:
   - **Windows**
     a. Enter the fax number of one or more recipients.
     b. Include a cover page. (This step is optional.)
     c. Include any pages loaded at the product. (This step is optional.)
     d. Click **Send Now**.
   - **Macintosh**
     a. **Mac OS X v10.3:** Select **Fax** from the **Print** dialog.

        -or-

        Mac OS X v10.4: Select **Fax PDF** from the **PDF** pop-up menu.
     b. Enter the fax number of one or more recipients.
     c. **Mac OS X v10.3:** Include a cover page (this step is optional).

        -or-

        Mac OS X v10.4: Select the product under **Modem**.
     d. Click **Fax**.

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Send a fax by dialing from a downstream phone

Occasionally, you might want to dial a fax number from a telephone that is connected to the same line as the product. For example, if you are sending a fax to a person whose device is in the manual receive mode, you can precede the fax with a voice call to let that person know that the fax is coming.

NOTE: The telephone must be connected to the product "telephone" port ( ).

1. Load the document into the automatic document feeder (ADF) input tray.

   NOTE: You cannot use the flatbed scanner when sending a fax by dialing from an extension telephone.

2. Pick up the handset of a telephone that is connected to the same line as the product. Dial the fax number by using the telephone keypad.

3. When the recipient answers, instruct the person to start the fax machine.

4. When you hear the fax tones, press Start Fax, wait until **Connecting** appears on the control-panel display, and then hang up the telephone or wait on the line until the fax is completed to resume voice calling.

Send a delayed fax

Use the product control panel to schedule a fax to be sent automatically at a future time to one or more people. When this procedure is completed, the product scans the document into memory and then returns to the Ready state.

NOTE: If the product cannot transmit the fax at the scheduled time, that information is indicated on the fax error report (if that option is turned on) or recorded in the fax activity log. The transmittal might not be initiated because the fax-sending call is not answered, or because a busy signal stops the redial attempts.

If a fax has been scheduled to be sent at a future time but it requires updating, send the additional information as another job. All faxes that are scheduled to go to the same fax number at the same time are delivered as individual faxes.

1. Load the document into the automatic document feeder (ADF) input tray or onto the flatbed scanner.

2. On the control panel, press Fax Menu.

3. Use the arrow buttons until **Send** appears, and then press OK.

4. Use the arrow buttons until **Send fax later** appears, and then press OK.

5. Use the alphanumeric buttons to enter the time.

6. If the product is set to the 12-hour time mode, use the arrow buttons to move to **A.M.** or **P.M.** Select **A.M.** or select **P.M.**, and then press OK.

   -or-

   If the product is set to the 24-hour time mode, press OK.

7. Use the alphanumeric buttons to enter the date, and then press OK.

   -or-

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Accept the default date by pressing OK.

8. Enter the fax number, enter the speed dial, or press the one-touch key. Access the phone book by pressing Fax Menu on the control panel and then selecting Phone Book.

NOTE: This feature does not support undefined (ad hoc) groups.

9. Press OK or Start Fax. The product scans the document into memory and sends it at the designated time.

Use access codes, credit cards, or calling cards

To use access codes, credit cards, or calling cards, dial manually to allow for pauses and dialing codes. See Manual dial faxing on page 138.

Send faxes internationally

To send a fax to an international destination, dial manually to allow for pauses and international dialing codes. See Manual dial faxing on page 138.

Receive a fax

When the product receives a fax transmission, it prints the fax (unless the private-receive feature is enabled) and also stores it automatically to flash memory.

Print a stored fax (when private receive feature is on)

To print stored faxes, you must provide the private-receive PIN. Once the product prints the stored faxes, the faxes are deleted from memory.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Receive**, and then press OK.
3. Use the arrow buttons to select **Print faxes**, and then press OK.
4. Use the alphanumeric buttons to enter the product security PIN, and then press OK.

Reprint a fax

If you want to reprint a fax because the print cartridge was empty or if the fax was printed on the wrong type of media, you can try to reprint it. The amount of memory that is available determines the actual number of faxes that are stored for reprinting. The most recent fax prints first; the oldest fax that is in storage prints last.

These faxes are stored continuously. Reprinting them does not clear them from the memory. To clear these faxes from the memory, see Delete faxes from memory on page 134.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Receive**, and then press OK.
3. Use the arrow buttons to select **Reprint faxes**, and then press OK. The product begins reprinting the most recently printed fax.

NOTE: To stop the printing at any time, press Cancel.

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△ **CAUTION:** If the **Allow Fax Reprint** setting is set to **Off**, misprinted or faded faxes cannot be reprinted.

Receive faxes when fax tones are audible on the phone line

If you have a telephone line that receives both fax and telephone calls, and you hear fax tones when you answer the telephone, you can start the receiving process in one of two ways:

- If you are close to the product, press Start Fax on the control panel and then hang up.
- When you answer any telephone connected to the line (an extension telephone) and hear fax tones, the product should begin answering the call automatically. If not, press 1-2-3 in sequence on the telephone keypad, listen for fax transmission sounds, and then hang up.

NOTE: In order for the second method to work, the extension telephone setting must be set to **Yes**. See Make an extension telephone available to receive faxes on page 132 to check or change the setting.

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Solve fax problems

Fax error messages

Alert and warning messages appear temporarily and might require the user to acknowledge the message by pressing OK to resume or by pressing Cancel to cancel the job. With certain warnings, the job might not complete or the print quality might be affected. If the alert or warning message is related to printing and the auto-continue feature is on, the product will attempt to resume the printing job after the warning has appeared for 10 seconds without acknowledgement.

Alert and warning message tables

Table 12-1 Alert and warning messages

Control panel message	Description	Recommended action
Comm. error	A fax communication error occurred between the product and the sender or receiver.	Allow the product to retry sending the fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Fax delayed – Send memory full	Fax memory is full.	Cancel the fax by pressing OK or Cancel. Resend the fax. You might need to send the fax in multiple sections if the error occurs again.
Fax is busy Canceled send	The fax line to which you were sending a fax was busy. The product has canceled sending the fax.	Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the **Redial if busy** option is enabled. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Fax is busy Redial pending	The fax line to which you were sending a fax was busy. The product automatically redials the busy number. See Set autoredial on page 124.	Allow the product to retry sending the fax. Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check for a dial tone on the phone line by pressing Start Fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).

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Table 12-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Fax memory full Canceling recv.	During the fax transmission, the product ran out of memory. Only the pages that fit into memory will be printed.	Print all of the faxes, and then have the sender resend the fax. Have the sender divide the fax job into multiple jobs before resending. Cancel all fax jobs or clear the faxes from memory. See Delete faxes from memory on page 134.
Fax memory full Canceling send	During the fax job, the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent.	Print all received faxes or wait until all pending faxes are sent. Ask the sender to send the fax again. Cancel all fax jobs or clear the faxes from memory. See Delete faxes from memory on page 134.
Fax recv. error	An error occurred while trying to receive a fax.	Ask the sender to resend the fax. Try faxing back to the sender or another fax machine. Check for a dial tone on the phone line by pressing Start Fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). Decrease the fax speed. See Change the fax speed on page 153. Ask the sender to resend the fax. Turn off error-correction mode. See Set the fax-error-correction mode on page 152. Ask the sender to resend the fax. Connect the product to a different phone line. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Fax Send error	An error occurred while trying to send a fax.	Try resending the fax. Try faxing to another fax number. Check for a dial tone on the phone line by pressing Start Fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). Set the fax resolution to **Standard** instead of the default of **Fine**. See Set resolution settings on page 125. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

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Table 12-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Fax storage is full. Unable to answer call	Memory is full	Print out the private receive faxes or delayed faxes. Clear the product memory.
Invalid entry	Invalid data or response.	Correct the entry.
No Dial Tone	The product could not detect a dial tone.	Check for a dial tone on the phone line by pressing Start Fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
No document sent	The product did not scan any pages, or it did not receive any pages from the computer to transmit a fax.	Try sending the fax again.
No fax answer Redial pending	The receiving fax line did not answer. The product attempts to redial after a few minutes.	Allow the product to retry sending the fax. Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
No fax answer. Canceled send	Attempts to redial a fax number failed, or the “Redial-no answer” option was turned off.	Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the redial option is enabled. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
No fax detected	The product answered the incoming call but did not detect that a fax machine was calling.	Allow the product to retry receiving the fax. Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152). If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

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Fax memory is retained when there is a loss of power

The HP Color LaserJet CM2320 MFP Series flash memory protects against data loss when a power failure occurs. Flash memory can maintain its data for years without power applied.

Fax logs and reports

Use the following instructions to print fax logs and reports:

Print all fax reports

Use this procedure to print all of the following reports at one time:

- Fax activity log
- Phone book report
- Configuration report
- Usage page
- Junk-fax list
- Billing report (if the option is turned on)

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **All fax reports**, and then press OK. The product exits the menu settings and prints the reports.

Print individual fax reports

Use the control panel to print the following fax logs and reports:

- **Fax activity log:** Provides a chronological history of the last 40 faxes that were received, sent, or deleted, and any errors that occurred.
- **Phone book report:** Lists the fax numbers that are assigned to the phone book entries, including speed dials and group-dial entries.
- **Block-fax list:** Lists the fax numbers that are blocked from sending faxes to the product.
- **Last call report:** Provides information about the last fax sent from or received at the product.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select the report to be printed, and then press OK. The product exits the menu settings and prints the report.

NOTE: If you selected **Fax Activity log** and pressed OK, press OK again to select **Print log now**. The product exits the menu settings and prints the log.

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Set the fax activity log to print automatically

You can decide whether or not you want the fax log to print automatically after every 40 entries. The factory-set default is **On**. Use the following steps to set the fax activity log to print automatically:

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Fax Activity log**, and then press OK.
4. Use the arrow buttons to select **Auto Log Print**, and then press OK.
5. Use the arrow buttons to select **On**, and then press OK to confirm the selection.

Set the fax error report

A fax error report is a brief report that indicates the product experienced a fax job error. It can be set to print after the following events:

- on Every error (the factory-set default)
- on Send error
- on Receive error
- Never

NOTE: If you select **Never**, you will have no indication that a fax failed to be transmitted unless you print a fax activity log.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Fax Error Report**, and then press OK.
4. Use the arrow buttons to select the option for when you want the fax error reports to be printed.
5. Press OK to save the selection.

Set the fax confirmation report

A confirmation report is a brief report that indicates the product successfully sent or received a fax job. It can be set to print after the following events:

- on Every fax
- on Send fax only
- on Receive fax only
- Never (the factory-set default)

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Fax Confirmation**, and then press OK.

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4. Use the arrow buttons to select the option for when you want the fax error reports to be printed.
5. Press OK to save the selection.

Include the first page of each fax on the fax confirmation, fax error, and last call reports

If this option is turned on and the page image still exists in the product memory, the fax configuration, fax error, and last call reports include a thumbnail (50% reduction) of the first page of the most recent fax that was sent or received. The factory-set default for this option is **On**.

1. On the control panel, press Fax Menu.
2. Use the arrow buttons to select **Reports**, and then press OK.
3. Use the arrow buttons to select **Include first page**, and then press OK.
4. Use the arrow buttons to select **On**, and then press OK to confirm the selection.

Perform a fax test

The fax test checks for an working phone line and verifies that the phone cord is plugged into the correct port.

To perform a fax test:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Service**, and then press OK.
3. Use the arrow buttons to select **Fax Service**, and then press OK.
4. Use the arrow buttons to select **Run Fax Test**, and then press OK.

When the fax test completes, a report is printed from the device. The report contains one of three possible results:

- **Pass:** the report contains all of the current fax settings for review.
- **Fail - the cord is in the wrong port:** the report contains suggestions for how to resolve the issue.
- **Fail - the phone line is not active:** the report contains suggestions for how to resolve the issue.

Change error correction and fax speed

Set the fax-error-correction mode

Usually, the product monitors the signals on the telephone line while it is sending or receiving a fax. If the product detects an error during the transmission and the error-correction setting is **On**, the product can request that the portion of the fax be resent. The factory-set default for error correction is **On**.

You should turn off error correction only if you are having trouble sending or receiving a fax, and you are willing to accept the errors in the transmission. Turning off the setting might be useful when you are trying to send a fax internationally or receive one, or if you are using a satellite telephone connection.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Service**, and then press OK.
3. Use the arrow buttons to select **Fax Service**, and then press OK.

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4. Use the arrow buttons to select **Error correction**, and then press OK.
5. Use the arrow buttons to select **On** or **Off**, and then press OK to save the selection.

Change the fax speed

The fax-speed setting is the modem protocol that the product uses to send faxes. It is the worldwide standard for full-duplex modems that send and receive data across telephone lines at up to 33,600 bits per second (bps). The factory-set default for the fax-speed setting is **High (V.34)**.

You should change the setting only if you are having trouble sending a fax to or receiving a fax from a particular device. Decreasing the fax speed might be useful when you are trying to send a fax overseas, or receive one from overseas, or if you are using a satellite telephone connection.

1. At the control panel, press Setup.
2. Use the arrow buttons to select Fax setup, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Fax Speed**, and then press OK.
5. Use the arrow buttons to select a speed setting, and then press OK.

Problems sending faxes

Problem	Cause	Solution
The document stops feeding in the middle of faxing.	The maximum length of a page that you can load is 381 mm (15 inches). Faxing of a longer page stops at 381 mm (15 inches).	Print the document on shorter media. If no jam exists and less than one minute has elapsed, wait a moment before pressing Cancel. If a jam exists, remove the jam. Then, resend the job.
	If the item is too small, it can jam inside the automatic document feeder (ADF).	Use the flatbed scanner. The minimum page size for the ADF is 127 x 127 mm (5 x 5 inches). If a jam exists, remove the jam. Then, resend the job.
Faxes stop during sending.	The receiving fax machine might be malfunctioning.	Try sending to another fax machine.
	The telephone line might not be working.	Do one of the following: • Turn up the volume on the product, and then press Start Fax on the control panel. If you hear a dial tone, the telephone line is working. • Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).
	A communication error might be interrupting the fax job.	Change the redial-on-communication-error setting to **On**.

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Problem	Cause	Solution
The product is receiving faxes but is not sending them.	If the product is on a digital system, the system might be generating a dial tone that the product cannot detect.	Disable the detect-dial-tone setting. If the error persists, contact the system service provider.
	A poor telephone connection might exist.	Try again later.
	The receiving fax machine might be malfunctioning.	Try sending to another fax machine.
	The telephone line might not be working.	Do one of the following: • Turn up the volume on the product and press Start Fax on the control panel. If a dial tone exists, the telephone line is working. • Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).
Outgoing fax calls continue to be dialed.	The product automatically redials a fax number if the redial options are set to **On**.	To stop the product from redialing a fax, press Cancel. Or change the redial setting.
Sent faxes are not arriving at the receiving fax machine.	The receiving fax machine might be off or might have an error condition, such as being out of paper.	Call the recipient to verify that the fax machine is on and ready to receive faxes.
	The originals might be incorrectly loaded.	Verify that the original documents are correctly loaded into the ADF input tray or flatbed scanner.
	A fax might be in memory because it is waiting to redial a busy number, other jobs that are ahead of it are waiting to be sent, or the fax is set up for a delayed send.	If a fax job is in memory for any of these reasons, an entry for the job appears in the fax log. Print the fax activity log and check the **Status** column for jobs that show a **Pending** designation.
Sent faxes include a block of gray shading at the end of each page.	The glass-fax size might be set incorrectly.	Verify that the setting is correct.
Sent faxes have data missing from the end of each page.	The glass-fax size might be set incorrectly.	Verify that the setting is correct.
The control panel shows a low-memory error.	The fax might be too large, or the resolution might be too high.	Try one of the following: • Divide a large fax into smaller sections, and then fax them individually. • Clear stored faxes to make more memory available for outgoing faxes. • Configure the outgoing fax as a delayed fax, and then verify that it will send completely. • Make sure that the product is using the lowest resolution setting (**Standard**).

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Problems receiving faxes

Use the table in this section to solve problems that might occur when receiving faxes.

NOTE: Use the fax cord that came with the product in order to ensure that the product functions correctly.

Problem	Cause	Solution
The product cannot receive faxes from an extension telephone.	The extension-telephone setting might be disabled.	Change the extension-telephone setting.
	The fax cord might not be securely connected.	Verify that the fax cord is securely connected between the telephone jack and the product (or another device that is connected to the product). Wait until you hear fax tones, then press 1-2-3 in sequence, wait for three seconds and hang up.
	The product dialing mode might be incorrectly set, or the extension phone might be incorrectly set.	Verify that the product dialing mode is set to **Tone**. Verify that the extension phone is set up for tone dialing as well.
The product is not answering incoming fax calls.	The answer mode might be set to **Manual**.	If the answer mode is set to **Manual**, the product does not answer calls. Start the fax-receiving process manually.
	The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting to verify that it is set properly.
	The answer-ring pattern feature might be turned on, but you do not have the service, or you do have the service and the feature is not set correctly.	Check the answer-ring pattern feature to verify that it is set properly.
	The fax cord might not be correctly connected, or the fax cord is not working.	Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).
	The product might not be able to detect incoming fax tones because the answering machine is playing a voice message.	Re-record the answering machine message, leaving at least two seconds of silence at the beginning of the message.
	Too many devices might be connected to the telephone line.	Do not attach more than three devices to the line. Remove the last device that was connected and determine whether the product works. If not, continue removing devices one at a time and retry after removing each one.
	The telephone line might not be working.	Do one of the following: • Increase the volume on the product, and then press Start Fax on the control panel. If a dial tone exists, the telephone line is working. • Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).

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Problem	Cause	Solution
The product is not answering incoming fax calls.	A voice-messaging service might be interfering with the product as it attempts to answer calls.	Do one of the following: • Disable the messaging service. • Get a telephone line that is dedicated to fax calls. • Set the product answer mode to **Manual**. In manual mode, you must start the fax-receive process yourself. • Leave the product set to automatic mode and lower the rings-to-answer setting for the product to a number less than the rings-to-answer setting for the voice mail. The product will answer all incoming calls.
	The product might be out of paper and the memory is full.	Refill the media input tray. Press OK. The product prints all of the faxes it has saved in memory and then resumes answering fax calls.
Faxes are not printing.	The media input tray is empty.	Load media. Any faxes that are received while the input tray is empty are stored in memory and will print after the tray has been refilled.
	The product has encountered an error.	Check the control panel for an error message, and then see Fax error messages on page 147.
	The sending fax number is on the junk faxes list.	Check the junk faxes list and remove the number.
	The Private Receive feature is turned on.	Turn off the Private Receive feature or access the saved faxes using the preset PIN.
Faxes are printing on two pages instead of one.	The autoreduction setting might not be set correctly.	Turn on the autoreduction setting.
	The incoming faxes might have been sent on larger media.	Adjust the autoreduction setting to allow larger pages to be printed on one page.
Received faxes are too light, are blank, or have poor print quality.	The product ran out of toner while printing a fax.	The product stores the most recently printed faxes. (The amount of memory that is available determines the actual number of faxes stored for reprinting.) As soon as possible, replace the print cartridge, and then reprint the fax.
	The fax that was sent was too light.	Contact the sender and have the sender resend the fax after altering the contrast settings.

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Performance problems

Problem	Cause	Solution
Faxes are transmitting or being received very slowly.	The fax might be very complex, such as one with many graphics.	Complex faxes take longer to be sent or received. Breaking longer faxes into multiple jobs and decreasing the resolution can increase the transmission speed.
	The receiving fax machine might have a slow modem speed.	The product sends the fax only at the fastest modem speed that the receiving fax machine can accept.
	The resolution at which the fax was sent or is being received might be very high.	To receive the fax, call and ask the sender to lower the resolution and resend the fax. To send the fax, lower the resolution and resend the fax.
	The telephone line might be experiencing line noise.	Hang up and resend the fax. Have the telephone company check the telephone line. If the fax is being sent via a digital phone line, contact the service provider.
	The fax is being sent via an international call.	Allow more time to transmit fax jobs internationally.
	The original document has a colored background.	Reprint the original document with a white background, and then resend the fax.
The fax activity logs or fax call reports are printing at inappropriate times.	The fax activity log or fax call reports settings are not correct.	Print a configuration page and check when the reports print.
The product sounds are too loud or too soft.	The volume setting might not be adjusted correctly.	Adjust the product volume setting.

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13 Photo

NOTE: This section applies to memory-card model only.

- Insert a memory card
- Change memory card default settings
- Print photos directly from the memory card
- Print a memory card thumbnail sheet
- Print and scan photos from a proof sheet

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Insert a memory card

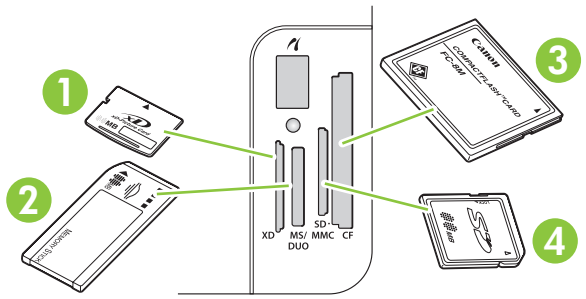
The product can read the following memory-card types:

- CompactFlash (CF) Type 1 and Type 2
- Memory Stick, Memory Stick PRO, and Memory Stick Duo
- MultiMedia Card (MMC)
- Secure Digital (SD)
- xD Picture Card

The memory card reader recognizes only the .JPEG file format when printing from the product control panel. To print other file types, you must do one of the following:

- Use the software, such as PhotoSmart Essential.
- Windows operating system users: Use Windows Explorer to move other file types to your computer, and then print the files from the computer.

Use the appropriate memory card slot on the HP Color LaserJet CM2320 MFP Memory-Card Model product. To find the appropriate slot, see the illustration below.



1	Accepts xD memory cards.
2	Accepts Memory Stick, Memory Stick PRO, and Memory Stick Duo memory cards.
3	Accepts CompactFlash memory cards.
4	Accepts Secure Digital and MultiMedia memory cards.

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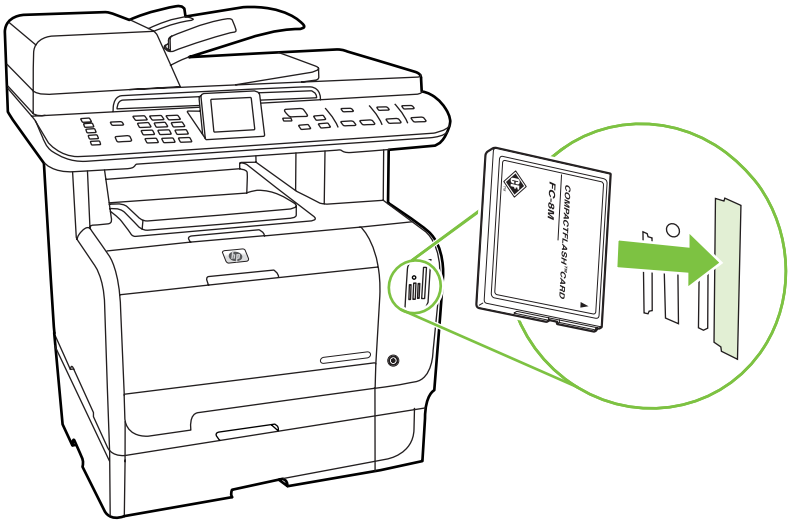
Insert and remove a memory card

NOTE: The product recognizes memory cards up to 2 GB.

1. Push the memory card into the appropriate memory slot to seat it.

   NOTE: You can use only one memory card in the product at a time. If two or more are inserted, the product displays an error message.

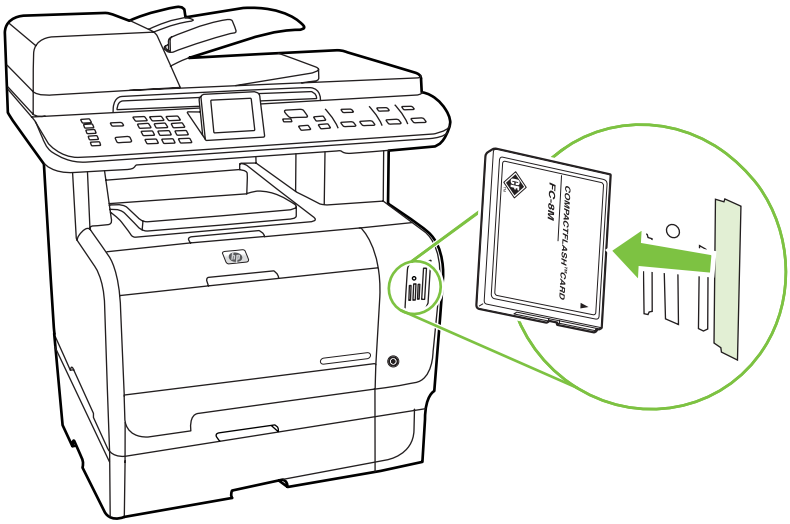


2. The product reads the card, and then the product control panel displays **X photos found on card**, where *X* is the number of recognized .JPEG files found on the memory card.

   After a few seconds, the message **Photo Menu** appears on the control-panel display. Now you can use the product to print photos. See Print photos directly from the memory card on page 163.

3. Grasp the card and gently pull it straight out of the memory card slot to remove it.

   CAUTION: To avoid damaging the files stored on the card, do not remove a memory card while the product is accessing it. Wait for the LED near the memory card slots to stop blinking before you remove the memory card. When the LED remains illuminated, it is safe to remove the memory card.



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Change memory card default settings

The product comes with default settings that you can change for photo printing from the product control panel.

NOTE: The default settings remain as selected until you change and save them again. If you want to change the settings temporarily for a particular photo-printing job, see Print photos directly from the memory card on page 163.

1. Press Setup.
2. Use the arrow buttons to select **Photo setup**, and then press OK.
3. Use the arrow buttons to select one of the following menu items, and then press OK.
   - **Default image Size**: The default image size for photos.
   - **Default lighter/darker**: Change the light and dark setting for the image that you are printing.
   - **Default number of copies**: Change the number of copies that you want to print.
   - **Default output color**: Set whether you are printing in color or black and white.
   - **Restore defaults**: This returns all photo settings to the factory defaults.
4. Use the arrow buttons to change the setting, and then press OK to save the change or, press X to exit the menu without saving changes.
5. Repeat these steps for each menu item that you want to change.

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Print photos directly from the memory card

Use the control panel to print directly from a memory card and to change the settings for a print job.

Print individual photos from the memory card

1. Insert the memory card into the product. The **Photo Menu** displays.
2. Use the arrow buttons to select **Easy Print** and then press OK.
3. Use the arrow buttons to select **Individual photo** and then press OK.
4. Use the arrow buttons or numeric keypad to make selections for each of the following menu items, and then press OK.
   - **Enter photo number**: Select an individual photo to print. The photos are numbered, starting with number 1.
   - **Select image size**: Set the size for the printed image.
   - **Select paper size**: Select the media size.
   - **Select paper type**: Select the media type.
   - **Number of copies**: Set the number of copies to print (1 to 99).
5. When the message **[OK] to print** appears on the control-panel display, press OK. Press X to exit the menu without printing.

Print a range of photos from the memory card

1. Insert the memory card into the product. The **Photo Menu** displays.
2. Use the arrow buttons to select **Easy Print**, and then press OK.
3. Use the arrow buttons to select **A range of photos**, and then press OK.
4. Use the arrow buttons or numeric keypad to make selections for each of the following menu items, and then press OK.
   - **Select first photo**: Select the first photo in the range of photos to print. The photos are numbered, starting with number 1.
   - **Select last photo**: Select the last photo in the range of photos to print.
   - **Select image size**: Set the size for the printed image.
   - **Select paper size**: Select the media size.
   - **Select paper type**: Select the media type.
   - **Number of copies**: Set the number of copies to print (1 to 99).
5. When the message **[OK] to print** appears on the control-panel display, press OK. Press X to exit the menu without printing.

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Print all of the photos from the memory card

1. Insert the memory card into the product. The **Photo Menu** displays.
2. Use the arrow buttons to select **Easy Print**, and then press OK.
3. Use the arrow buttons to select **All photos (# - #)**, and then press OK.
4. Use the arrow buttons to make selections for each of the following menu items, and then press OK.
   - **Select image size**: Set the size for the printed image.
   - **Select paper size**: Select the media size.
   - **Select paper type**: Select the media type.
   - **Number of copies**: Set the number of copies to print (1 to 99).
5. When the message **[OK] to print** appears on the control-panel display, press OK. Press X to exit the menu without printing.

Print a memory card thumbnail sheet

Use the control panel to print a thumbnail sheet of all of the photos on a memory card.

1. Insert the memory card into the product. See Insert a memory card on page 160. The message **Photo Menu** displays.
2. Use the arrow buttons to select **Thumbnail** and then press OK.
3. Use the arrow buttons to select either **Fast** or **Best**, and then press OK. Press X to exit the menu without printing.

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Print and scan photos from a proof sheet

Preview images and print photos from a proof sheet. A proof sheet can contain as many as 20 images. This feature has been optimized and tested for use with Genuine HP Toner Supplies.

1. Insert the memory card into the product. The **Photo Menu** displays.
2. Use the arrow buttons to select **Options** and then press OK.
3. Use the arrow buttons to select **Proof Sheet** and then press OK.
4. Use the arrow buttons to select **Print proof sheet** and then press OK.
5. If more than 20 JPEG files exist on the memory card, use the arrow buttons to select one of the following menu items, then press OK.
   - **All photos (#-#)**: "#" represents the number of JPEG files the product detects on the card. Selecting this option prints all JPEG files on the memory card. Press OK again to confirm the print job.
   - **Last 20 photos**: Prints the last 20 JPEG files from the alphabetized list on the memory card.
   - **Custom**: Select one or more photos to print by pressing OK.
6. After the proof sheet prints, color in the bubble beneath each picture you want to print using a dark blue or black pen. Also fill bubbles to indicate the image layout and media type.
7. Place the proof sheet face-down on the flatbed scanner with the upper-left corner of the document at the corner indicated by the icon on the scanner.
8. On the control panel, press Photo Menu.
9. Use the arrow buttons to select **Options** and then press OK.
10. Use the arrow buttons to select **Proof Sheet** and then press OK.
11. Use the arrow buttons to select **Scan proof sheet** and then press OK. The product scans the proof sheet and prints the marked photos. Repeat steps 7 through 11 for each proof sheet.

NOTE: Photos printed using a proofsheet can only be printed in color.

JPEG files on the memory card are displayed in alphabetical order. When the order of photos on the memory card is unknown, print an index.

Photos are still printed in color even when color copying is disabled on the product.

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14 Manage and maintain the product

- Information pages
- HP ToolboxFX
- Embedded Web server
- Use HP Web Jetadmin software
- Security features
- Manage supplies

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Information pages

Information pages reside within the product memory. These pages help diagnose and solve problems with the product.

NOTE: If the product language was not correctly set during installation, you can set the language manually so the information pages print in one of the supported languages. Change the language by using the **System setup** menu on the control panel or the embedded Web server. See Control panel on page 7.

Page description	How to print the page
Configuration page Shows the current settings and product properties.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **Configuration report**, and then press OK. A second page also prints (fax models only). On that page, the **Fax Settings** section provides details about the product fax settings.
Supplies status page Shows the remaining life of the HP print cartridge, the approximate pages remaining, the number of pages printed, and other supplies information.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **Supplies Status**, and then press OK.
PCL, PCL 6, or PS font list Shows which fonts are currently installed in the device.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **PCL font list**, **PS font list**, or **PCL6 font list**, and then press OK.
Demo page Contains examples of text and graphics.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **Demo page**, and then press OK.
Event log	You can print the event log from HP ToolboxFX, the embedded Web server, or HP Web Jetadmin. See HP ToolboxFX on page 170, Embedded Web server on page 180, or the Web Jetadmin Help.
Usage page Shows the number of one-sided (simplexed) or two-sided (duplexed) pages, and the average percentage of coverage.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **Usage page**, and then press OK.

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Page description	How to print the page
Menu structure Shows the control-panel menus.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select **Reports**, and then press OK. 3. Use the arrow buttons to select **Menu structure**, and then press OK.
Network report Shows the product network settings.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons to select **Network report**, and then press OK.
Fax reports (fax models only)	For information about fax logs and reports, see Fax logs and reports on page 150.
Color usage job log Provides a summary of color usage.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons to select Color usage job log, and then press OK.
Service page Prints a service report.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons to select Service page, and then press OK.
Diagnostics page Prints a diagnostics page pertaining to color calibration and color quality.	1. On the product control panel, press Setup. 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons to select Diagnostics page, and then press OK.

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HP ToolboxFX

HP ToolboxFX is a program that you can use to complete the following tasks:

- Check the product status.
- Configure the product settings.
- Configure pop-up-alert messages.
- View troubleshooting information.
- View online documentation.

You can view HP ToolboxFX when the product is directly connected to your computer or is connected to the network. You must perform a recommended software installation to use HP ToolboxFX.

NOTE: HP ToolboxFX is not supported for Windows Server 2003 or Macintosh operating systems. To use HP ToolboxFX, you must have TCP/IP protocol installed on your computer.

You do not have to have Internet access to open and use HP ToolboxFX.

View the HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- In the Windows system tray, double-click the HP ToolboxFX icon ( ).
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP and Vista), click **HP**, click **HP Color LaserJet CM2320 MFP Series**, and then click **HP ToolboxFX**.

Status

The **Status** folder contains links to the following main pages:

- **Device status**. This page indicates product conditions such as a jam or an empty tray. After you correct a problem, click **Refresh status** to update the product status.
- **Supplies status**. View details such as the approximate percent of toner remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also has links for ordering supplies and for finding recycling information.
- **Device configuration**. View a detailed description of the current product configuration, including the amount of memory installed and whether optional trays are installed.
- **Network summary**. View a detailed description of the current network configuration, including the IP address and network status.
- **Print info pages**. Print the Configuration page and other information pages, such as the Supplies status page. See Information pages on page 168.
- **Color usage job log**. View color usage information for the product.
- **Event log**. View a history of product errors. The most recent error is listed first.

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Event log

The event log is a four-column table where the product events are logged for your reference. The log contains codes that correspond to the error messages that appear on the product control-panel display. The number in the Page Count column specifies the total number of pages that the product had printed when the error occurred. The event log also contains a brief description of the error. For more information about error messages, see Control-panel messages on page 203.

Alerts

The HP ToolboxFX **Alerts** tab contains links to the following main pages:

- **Set up Status Alerts**. Set up the product to send you pop-up alerts for certain events, such as low toner levels.
- **Set up E-mail Alerts**. Set up the product to send you e-mail alert messages for certain events, such as low toner levels.

Set up status alerts

Use HP ToolboxFX to set up the product so that it issues pop-up alerts to your computer when certain events occur. Events that trigger alerts include jams, low levels of toner in HP print cartridges, non-HP print cartridge in use, empty input trays, and specific error messages.

Select the pop-up format, the tray icon format, or both for the alerts. The pop-up alerts only appear when the product is printing from the computer on which you set up the alerts.

Change the **Cartridge low threshold** setting, which sets the toner level that causes a low toner alert, in **System Setup** on the **System Settings** tab.

NOTE: You must click **Apply** before the changes take effect.

Set up e-mail alerts

Use this to configure up to two e-mail addresses to receive alert messages when certain events occur. You can specify different events for each e-mail address. Use the information for the e-mail server that will send out the e-mail alert messages for the product.

NOTE: You can only configure e-mail alerts to be sent from a server that does not require user authentication. If your e-mail server requires you to log in with a username and password, you cannot enable e-mail alerts.

NOTE: You must click **Apply** before your changes take effect.

Product information

The **Product information** folder contains links to the following page:

- **Demonstration Pages**. Print pages that show the color print quality potential and overall print characteristics of the product.

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Fax

Use the HP ToolboxFX **Fax** tab to perform fax tasks from your computer. The **Fax** tab contains links to the following main pages:

- **Fax Receive**. Set the fax receive mode.
- **Fax Phone Book**. Add, edit, or delete entries in the product phone book.
- **Fax Send Log**. View all of the recent faxes that have been sent from the product.
- **Fax Receive Log**. View all of the recent faxes that have been received by the product.
- **Junk Faxes**. Add, delete, or view fax numbers that are blocked.
- **Fax Data Properties**. Manage the space used to store faxes on your computer. These settings apply only if you have chosen to send or receive faxes remotely from your computer.

Fax Receive

The following options are available when receiving a fax:

- Print the fax. You can also select an option to have a message appear on your computer to notifying you when the fax was printed.
- Forward the fax to another fax machine.

For more information about fax tasks, see Fax (fax models only) on page 113.

NOTE: You must click **Apply** before the changes take effect.

Fax phone book

Use the HP ToolboxFX fax phone book to add and remove individuals or groups on your speed-dial list, import phone books from a variety of sources, and update and maintain the contact list.

- To add an individual contact to the speed-dial list, select the row of the speed dial number that you want to specify. Type the contact name in the **Contact name** window. Type the fax number in the **Fax number** window. Click **Add**.
- To add a group of contacts to the speed-dial list, select the row of the speed-dial number that you want to specify. Click **Add Group**. Double-click a contact name from the list on the left to move it to the group list on the right, or select a name on the left and then click the appropriate arrow to move it to the group list on the right. You can also use those two methods to move names from right to left. When you have created a group, type a name in the **Group name** window, and then click **OK**.
- To edit an existing individual speed-dial entry, click anywhere on the row containing the contact name to select it, and then click **Update**. Type changes in the appropriate windows, and then click **OK**.
- To edit an existing group-speed-dial entry, click anywhere on the row containing the group name to select it, and then click **Update Group**. Make any required changes, and then click **OK**.
- To delete an entry from the speed-dial list, select the item, and then click **Delete**.
- To move speed dial entries, select the entry and then click **Move**, or select **Move** and then specify the entry in the dialog box. Either select **Next empty row** or specify the number of the row where you want to move the entry.

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NOTE: If you specify a row that is occupied, the new entry will overwrite the existing entry.

- To import contacts from a phone book that exists in Lotus Notes, Outlook, or Outlook Express, click **Import/Export Phone Book**. Select the **Import** option, and then click **Next**. Select the appropriate software program, navigate to the appropriate file, and then click **Finish**. To export contacts from a phone book, click **Import/Export Phone Book**. Select the **Export** option, and then click **Next**. Enter the file name or browse to the file to which you want to export contacts, and then click **Finish**. You can also select individual entries from the phone book instead of importing the entire phone book.
- To delete all entries, click **Delete All**, and then click **Yes**.

In addition to numerical digits, the following are valid characters for fax numbers:

- (
-)
- +
- -
- *
- #
- R
- W
- .
- ,
- <space>

NOTE: You must click **Apply** before the changes take effect.

For more information about faxes, see Fax (fax models only) on page 113.

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Fax send log

The HP ToolboxFX fax send log lists all recently sent faxes and information about them, including the date and time sent, job number, fax number, page count, and the results.

Click any column heading in the fax send log to re-sort the information in that column in ascending or descending order.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not sent.

For more information about faxes, see Fax (fax models only) on page 113.

Fax receive log

The HP ToolboxFX fax receive log provides a list of all recently received faxes and information about them including the date and time received, job number, fax number, page count, results, and an abbreviated fax image.

The fax receive log can be used to block future faxes. Check the **Block Fax** box next to a received fax listed on the log.

When a computer that is connected to the product receives a fax, the fax contains a **View** link. Clicking this link opens a new page that provides information about the fax.

Click on any column heading in the fax receive log to re-sort the information in that column in ascending or descending order.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not received.

NOTE: You must click **Apply** before the changes take effect.

For more information about faxes, see Fax (fax models only) on page 113.

Junk Faxes

Junk Faxes provides a list of all numbers that are blocked. Add, modify, or delete blocked fax numbers on this tab.

Help

The **Help** folder contains links to the following main pages:

- **Troubleshooting**. View troubleshooting help topics, print troubleshooting pages, clean the product, and open Microsoft Office Basic Colors. For more information about Microsoft Office Basic Colors, see Match colors on page 92.
- **Paper and Print Media**. Print information about how to obtain optimal results from your product using various types of paper and print media.
- **Color Printing Tools**. Open Microsoft Office Basic Colors or the full palette of color with associated RGB values. For more information about Microsoft Office Basic Colors, see Match colors on page 92. Use the HP Basic Color Match to adjust spot colors in your printed output.

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- **Animated demonstrations**. View animated demonstrations for common troubleshooting procedures.
- **User Guide**. View information about the product usage, warranty, specifications, and support. The User Guide is available in both HTML and PDF format.

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System Settings

The HP ToolboxFX **System Settings** tab contains links to the following main pages:

- **Device Information**. View information about the product, such as the product description and a contact person.
- **Paper Handling**. Change the product paper-handling settings, such as default paper size and default paper type.
- **Print Quality**. Change the product print-quality settings.
- **Print Density**. Change the print-density settings, such as contrast, highlights, midtones, and shadows.
- **Paper Types**. Change the mode settings for each media type, such as letterhead, prepunched, or glossy paper.
- **System Setup**. Change the system settings, such as jam recovery and auto-continue. Change the **Cartridge low threshold** setting, which sets the toner level that causes a Low toner pop-up alert.
- **Service**. Gain access to various procedures required to maintain the product.
- **Device Polling**. Change the product polling settings, which determine how often HP ToolboxFX collects data from the product.
- **Save/Restore Settings**. Save the current settings for the product to a file on the computer. Use this file to load the same settings onto another product or to restore these settings to this product at a later time.
- **Password**. Set, change, or clear the product security password (see Turn on password protection from the control panel on page 181).

Device Information

The Device Information page stores data about your product for future reference. The information that you type in the fields on this page appears on the Configuration page. You can type any character in each of these fields.

NOTE: You must click **Apply** before your changes take effect.

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Paper Handling

Use these options to configure your default settings. For more information, see Use the control-panel menus on page 10.

The following options are available for handling print jobs when the product is out of media:

- Select **Wait for paper to be loaded**.
- Select **Cancel** from the **Paper out action** drop-down list to cancel the print job.
- Select **Override** from the **Paper out action** drop-down list to send the print job to another paper tray.

The **Paper out time** field specifies how long the product waits before acting on your selections. You can specify from 0 to 3600 seconds.

NOTE: You must click **Apply** before your changes take effect.

Print Quality

Use these options to improve the appearance of your print jobs. For more information, see Control panel on page 7.

Color Calibration

- **Power On Calibration**. Specify whether the product should calibrate when you turn it on.
- **Calibration Timing**. Specify how frequently the product should calibrate.
- **Calibrate Now**. Set the product to calibrate immediately.

NOTE: You must click **Apply** before your changes take effect.

Print Density

Use these settings to make fine adjustments in the amount of each color of toner that is used for your printed documents.

- **Contrasts**. Contrast is the range of difference between light (highlight) and dark (shadow) colors. To increase the overall range between light and dark colors, increase the **Contrasts** setting.
- **Highlights**. Highlights are colors that are nearly white. To darken highlight colors, increase the **Highlights** setting. This adjustment does not affect midtone or shadow colors.
- **Midtones**. Midtones are colors that are halfway between white and solid density. To darken midtone colors, increase the **Midtones** setting. This adjustment does not affect highlight or shadow colors.
- **Shadows**. Shadows are colors that are nearly solid density. To darken shadow colors, increase the **Shadows** setting. This adjustment does not affect highlight or midtone colors.

Paper Types

Use these options to configure print modes that correspond to the various media types. To reset all modes to factory default settings, select **Restore modes**.

NOTE: You must click **Apply** before your changes take effect.

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System setup

Use the HP ToolboxFX system settings options to configure global settings for copy, fax, scan, and print, such as jam recovery and auto-continue.

NOTE: You must click **Apply** before the changes take effect.

Service

During the printing process, paper, toner and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. The HP ToolboxFX provides an easy method for cleaning the paper path. For more information, see Clean the product on page 191.

Device polling

You can turn off HP ToolboxFX device polling to reduce network traffic, but doing so also disables some HP ToolboxFX features: pop-up alerts, fax log updates, the ability to receive faxes to this computer, and scanning using the Scan To button.

NOTE: You must click **Apply** before the changes take effect.

Save/Restore

Saves printer settings to a file on your PC for backup.

Password

Set you system password.

Print Settings

The HP ToolboxFX **Print Settings** tab contains links to the following main pages:

- **Printing**. Change the default product print settings, such as number of copies and paper orientation.
- **PCL5**. View and change the PCL5 settings.
- **PostScript**. View and change the PS settings.
- **Photo**. Change the photo settings and enable/disable the photo card slots (photo card models only).

Printing

Use these options to configure the settings for all print functions. These are the same options that are available on the control panel. For more information, see Use the control-panel menus on page 10.

NOTE: You must click **Apply** before your changes take effect.

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PCL5

Use these options to configure the settings when you are using the PCL print personality.

NOTE: You must click **Apply** before your changes take effect.

PostScript

Use this option when you are using the PostScript print personality. When the **Print PostScript error** option is turned on, the PostScript error page automatically prints when PostScript errors occur.

NOTE: You must click **Apply** before your changes take effect.

Network Settings

The network administrator can use this tab to control the network-related settings for the product when it is connected to an IP-based network.

E-mail

The HP ToolboxFX E-mail tab contains links to the following main pages:

- **E-mail Configuration**. Configure scan-to-e-mail settings
- **E-mail Contacts**. Make changes to the e-mail contacts list associated with the scan-to-e-mail feature.

E-mail configuration

Use the E-mail Configuration page to enable the scan-to-e-mail features and to specify the SMTP gateway, SMTP port, and other basic information. The SMTP gateway is a server that is used to send e-mail; for example, “mail.yourISP.com”. The SMTP port is a number between 0 and 65535. Contact your system administrator for this information.

Use the **Test Settings** button to test your scan-to-e-mail settings.

NOTE: You must click **Apply** before your changes take effect.

E-mail contacts

Use the HP ToolboxFX E-mail Contacts page to add and remove individuals from your e-mail contacts list. The e-mail contacts list can contain up to 50 entries.

To add a contact to the e-mail contacts list, type the contact’s name in the **Contact Name** window. Type the associated e-mail address in the **E-mail Address** window. Then click **Add**. You can also add a contact by double-clicking an empty row in the e-mail contacts list. Then type your contact’s information in the appropriate windows and click **OK**. If you select a row that is occupied, the new entry will overwrite the existing entry.

To edit an existing contact entry, select the row containing the contact name, and then click **Update**. Type changes in the appropriate window, and then click **OK**.

To delete an entry from the e-mail contacts list, select the item, and then click **Delete**. To delete all entries, click **Delete All**, and then click **Yes**.

NOTE: You must click **Apply** before your changes take effect.

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Embedded Web server

This product is equipped with an embedded Web server (EWS), which provides access to information about product and network activities. A Web server provides an environment in which web programs may run, much in the same way that an operating system, such as Windows, provides an environment for programs to run on a computer. The output from these programs can then be displayed by a Web browser, such as Microsoft Internet Explorer, Safari, or Netscape Navigator.

An “embedded” Web server resides on a hardware device (such as an HP LaserJet product) or in firmware, rather than as software that is loaded on a network server.

The advantage of an EWS is that it provides an interface to the product that anyone with a network-connected product and computer can use. There is no special software to install or configure, but you must have a supported Web browser on the computer. To gain access to the EWS, type the IP address for the product in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see Information pages on page 168.)

NOTE: For Macintosh operating systems, you can use the EWS over a USB connection after installing the Macintosh software included with the product.

Features

The EWS allows you to view product and network status and manage printing functions from a computer. With the EWS, you can complete the following tasks:

- View product status information
- Determine the remaining life on all supplies and order new ones
- View and change part of the product configuration
- View and print some internal pages
- Select the language in which to display the EWS pages and control panel messages
- View and change network configuration
- Set, change, or clear the product security password (see Turn on password protection from the control panel on page 181).
- Enable/disable the photo card slot on the product from the print tab
- Set fax receive and phone book settings.
- Set default copy and print settings.

NOTE: Changing network settings in the EWS might disable some of product software or features.

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Use HP Web Jetadmin software

HP Web Jetadmin is a Web-based software solution for remotely installing, monitoring, and troubleshooting network-connected peripherals. The intuitive browser interface simplifies cross-platform management of a wide range of devices, including HP and non-HP devices. Management is proactive, allowing network administrators the ability to resolve issues before users are affected. Download this free, enhanced-management software at www.hp.com/go/webjetadmin_software.

To obtain plug-ins to HP Web Jetadmin, click **plug-ins**, and then click the **download** link that is next to the name of the plug-in that you want. The HP Web Jetadmin software can automatically notify you when new plug-ins are available. On the **Product Update** page, follow the directions to automatically connect to the HP Web site.

If installed on a host server, HP Web Jetadmin is available to any client through a supported Web browser, such as Microsoft Internet Explorer 6.0 for Windows or Netscape Navigator 7.1 for Linux. Browse to the HP Web Jetadmin host.

NOTE: Browsers must be Java-enabled. Browsing from an Apple PC is not supported.

Security features

The product includes a password feature that restricts access to setup features while allowing basic functions to continue. A single system password can be set from the EWS or the control panel.

Private receive can be used to store faxes on the product until you are at the product to print them.

Turn on password protection using the embedded Web server

Use the EWS to set the password.

1. Open the EWS, and then click the **System** tab.
2. Click **Password**.
3. In the **Password** box, type the password you want to set, and then in the **Confirm password** box, type the same password again to confirm your choice.
4. Click **Apply** to save the password.

Turn on password protection from the control panel

To set up the product security password, complete the following steps:

1. On the control panel, press Setup.
2. Use the arrow buttons to select **System setup**, and then press OK.
3. Use the arrow buttons to select **Product security**, and then press OK.
4. Use the arrow buttons to select **On**, and then press OK.
5. Use the alphanumeric buttons to enter the product password, and then press OK.
6. To confirm the product password, use the alphanumeric buttons to re-enter the password, and then press OK.

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Turn on private receive feature

The password-protection feature must be turned on before the private-receive feature can be activated.

1. On the control panel, press Setup.
2. Use the arrow buttons to select **Fax setup**, and then press OK.
3. Use the arrow buttons to select **Advanced setup**, and then press OK.
4. Use the arrow buttons to select **Private receive**, and then press OK.
5. Use the arrow buttons to select **On**, and then press OK.
6. Use the alphanumeric buttons to enter the product security password, and then press OK.
7. To confirm the product security password, use the alphanumeric buttons to re-enter the product security password, and then press OK.

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Manage supplies

Check and order supplies

You can check the supplies status by using the product control panel, printing a supplies status page, or viewing HP ToolboxFX. Hewlett-Packard recommends that you place an order for a replacement print cartridge when Low message for a print cartridge first appears. Use a new, authentic HP print cartridge to obtain the following types of supplies information:

- Amount of cartridge life remaining
- Approximate number of pages remaining
- Number of pages printed
- Other supplies information

NOTE: If the product is connected to the network, you can set HP ToolboxFX to notify you by e-mail when a print cartridge is low. If the product is directly connected to a computer, you can set HP ToolboxFX to notify you when supplies are low.

Check supplies status by using the control panel

Do one of the following:

- Check the product control panel, which indicates when a print cartridge is low or empty. The control panel also indicates when a non-HP print cartridge is first installed.
- Print a supplies status page, and then check the supplies levels on the page.

If the supplies levels are low, you can order supplies through a local HP dealer, by telephone, or online. See Supplies and accessories on page 245 for part numbers. Go to www.hp.com/go/ljsupplies to order online.

Check supplies status by using HP ToolboxFX

You can configure HP ToolboxFX to notify you when the supplies are low. Choose to receive alerts by e-mail or as a pop-up message or taskbar icon.

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Store supplies

Follow these guidelines for storing print cartridges:

- Do not remove the print cartridge from its package until you are ready to use it.

△ **CAUTION:** To prevent damage, do not expose the print cartridge to light for more than a few minutes.

- See Environmental specifications on page 255 for operating and storage temperature ranges.
- Store the supply in a horizontal position.
- Store the supply in a dark, dry location away from heat and magnetic sources.

HP policy on non-HP supplies

Hewlett-Packard Company cannot recommend the use of non-HP supplies, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality. Service or repairs required as a result of using a non-HP supply will *not* be covered under the warranty.

HP fraud hotline

Call the HP fraud hotline if the product or HP ToolboxFX indicates that the print cartridge is not an HP print cartridge and you think that it is genuine. HP will help determine if the product is genuine and take steps to resolve the problem.

The print cartridge might not be a genuine HP one if you notice the following issues:

- You are experiencing a large number of problems with the print cartridge.
- The print cartridge does not look like it usually does (for example, the pull tab or the box is different).

In the United States, call toll-free: 1-877-219-3183.

Outside the United States, you can call collect. Dial the operator and ask to place a collect call to this telephone number: 1-770-263-4745. If you do not speak English, a representative at the HP fraud hotline who speaks your language will assist you. Or, if someone who speaks your language is not available, a language line interpreter will connect approximately one minute after the beginning of the call. The language line interpreter is a service that will translate between you and the representative for the HP fraud hotline.

Recycle supplies

To install a new HP print cartridge, follow the instructions that are included in the box that contains the new supply, or see the getting started guide.

To recycle supplies, place the used supply in the box in which the new supply arrived. Use the enclosed return label to send the used supply to HP for recycling. For complete information, see the recycling guide that is included with each new HP supply item. See HP LaserJet print supplies on page 259 for more information about HP's recycling program.

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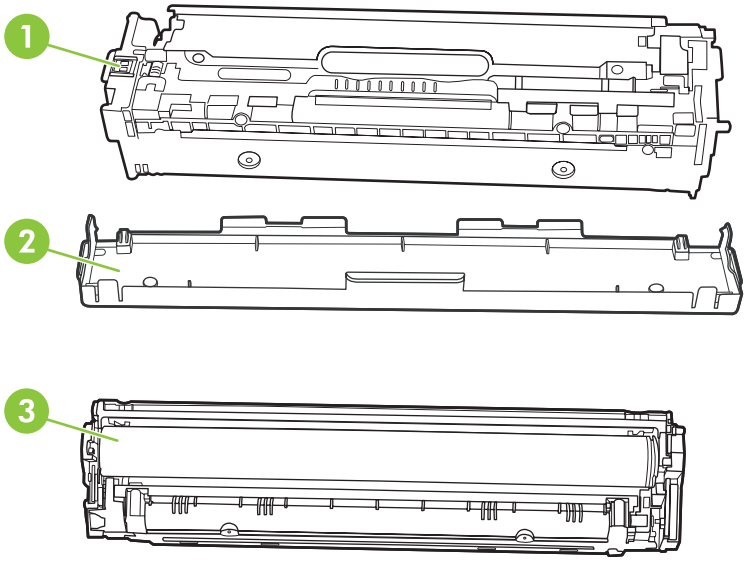
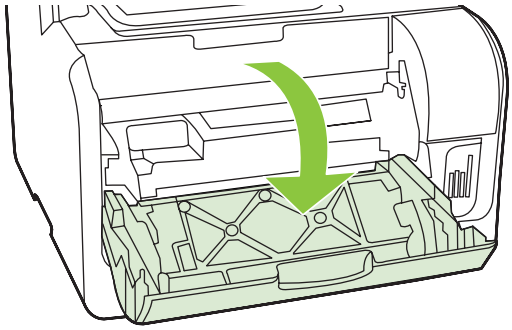
Replace supplies

Print cartridge



1	Cartridge E-label
2	Plastic shield
3	Imaging Drum. Do not touch the imaging drum on the bottom of the print cartridge. Fingerprints on the imaging drum can cause print-quality problems.

1. Open the front door.



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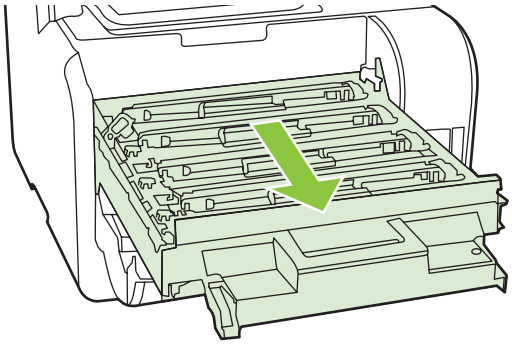
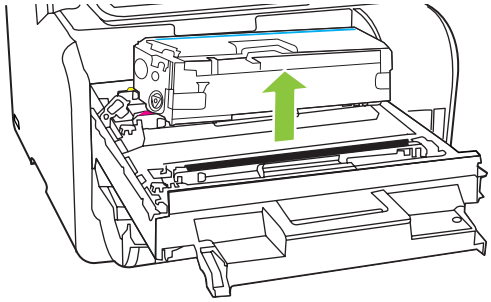
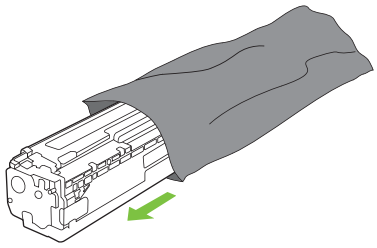
2. Pull out the print-cartridge drawer.



3. Grasp the handle on the old print cartridge and then pull the cartridge straight up to remove it.



4. Remove the new print cartridge from the packaging.



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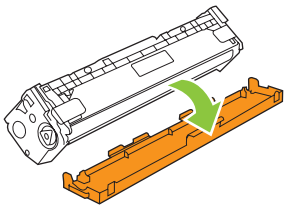
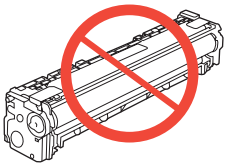
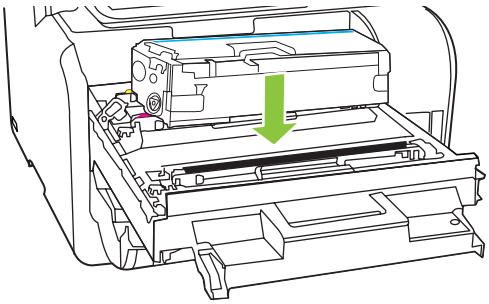
5. Remove the orange, plastic shield from the bottom of the new print cartridge.



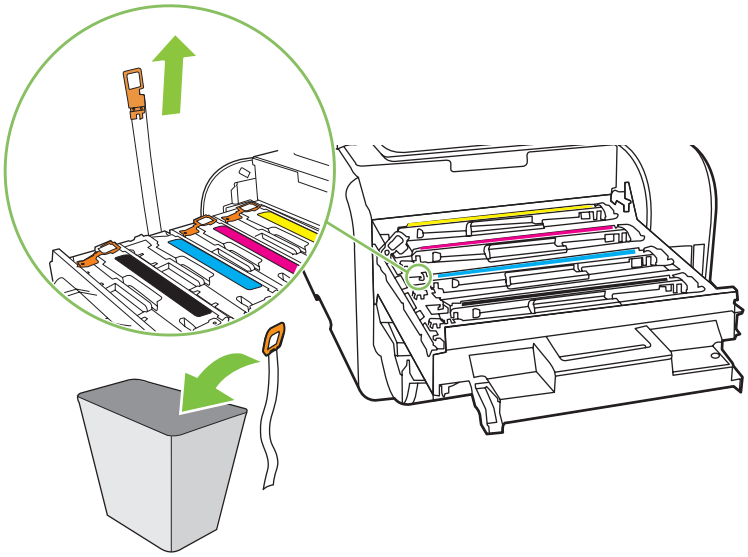
△ **CAUTION:** Do not touch the imaging drum on the bottom of the print cartridge. Fingerprints on the imaging drum can cause print-quality problems.



6. Insert the new print cartridge into the product.



7. Pull the tab on the left side of the print cartridge straight up to completely remove the sealing tape. Discard the sealing tape.



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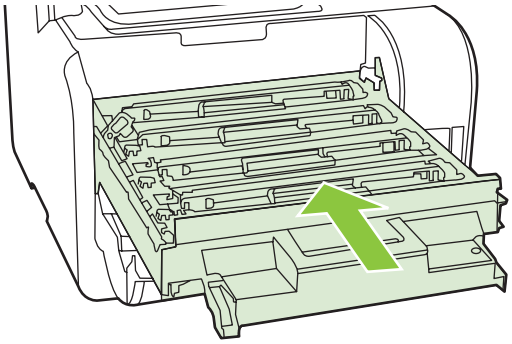
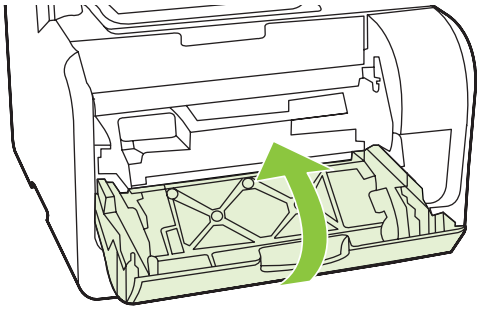
8. Close the print-cartridge drawer.



9. Close the front door.



10. Place the old print cartridge in the box for the new print cartridge. Follow the recycling instructions that are included in the box.

△ **CAUTION:** If toner gets on any clothing, wipe it off with a dry cloth and wash the clothing in cold water. *Hot water sets toner into the fabric.*

Memory DIMMs

Information

The product comes with 160 MB of RAM. The product also has one DIMM slot that can be used to add a 64 MB or 128 MB DIMM. Some available RAM might be used by the product to complete jobs.

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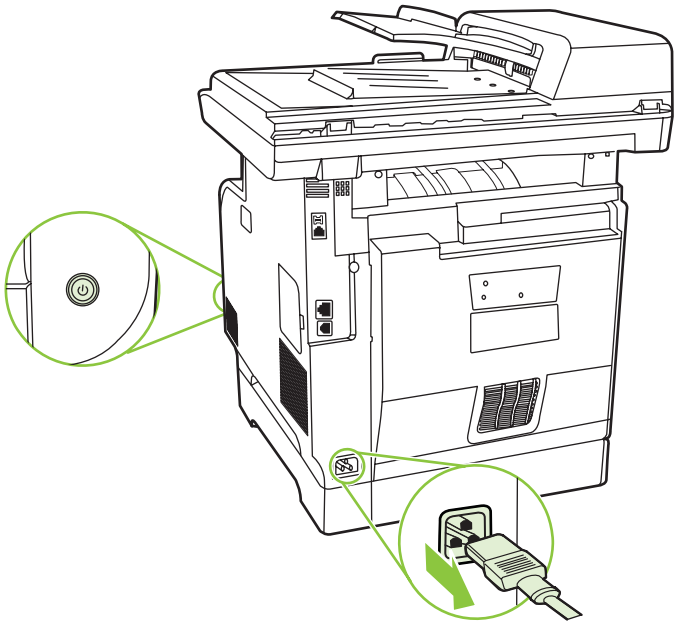
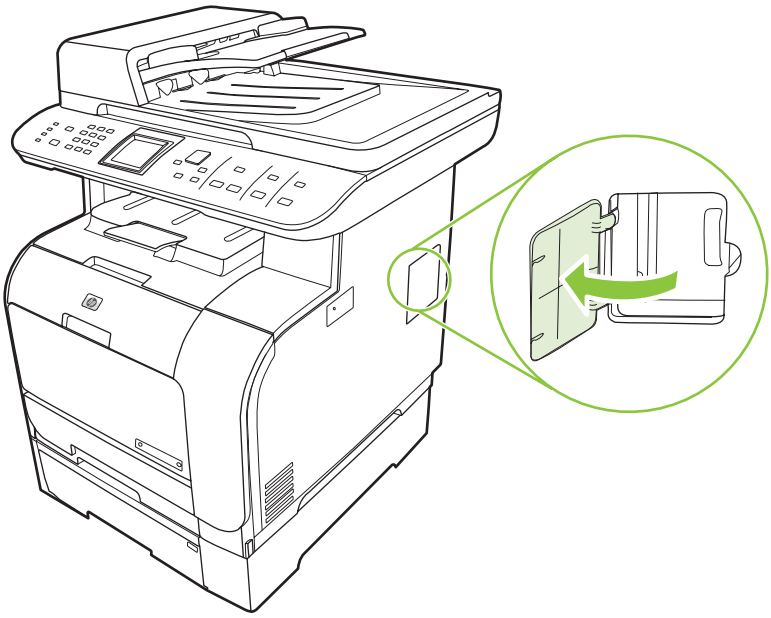
Install a memory DIMM

△ **CAUTION:** Handling a DIMM without wearing a grounded, antistatic device might damage the DIMM. Touch any metal part of the product or other grounded metal before touching the DIMM.

1. Use the power switch to turn off the product, and then unplug all of the cables and cords connected to the product.



2. Open the DIMM door.



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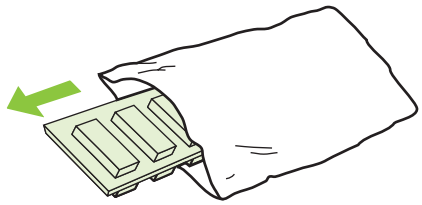
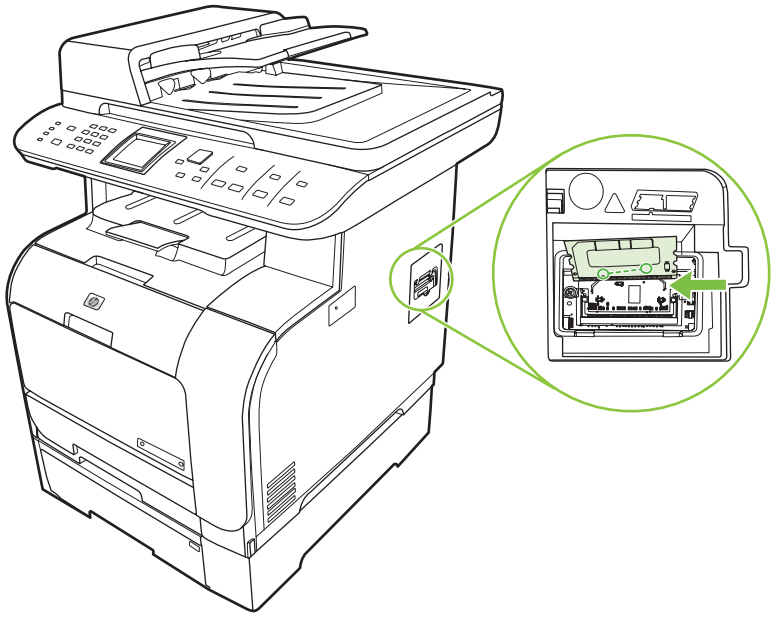
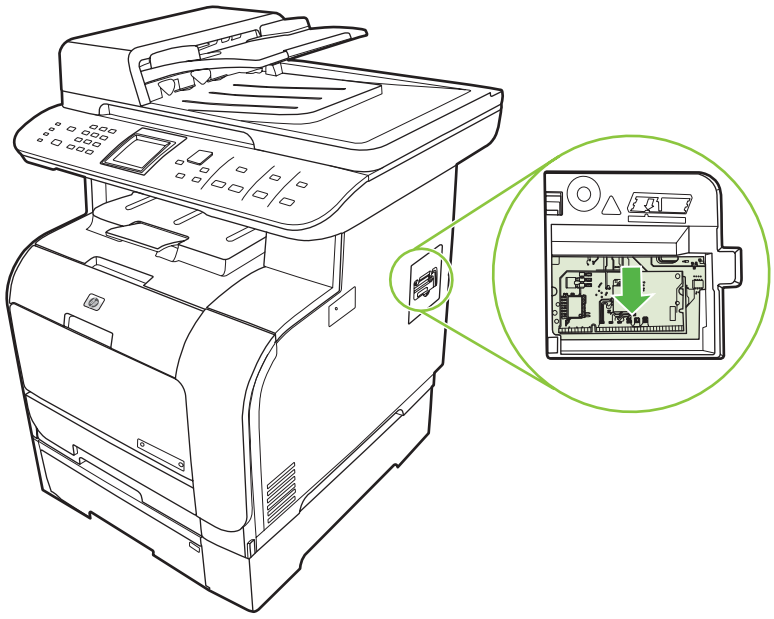
3. Remove the DIMM from the antistatic bag it came in, grasping the DIMM on the top edge.



4. With the gold contacts facing upward, insert the DIMM in the DIMM seat and press the DIMM body in until the metal retaining pins click.





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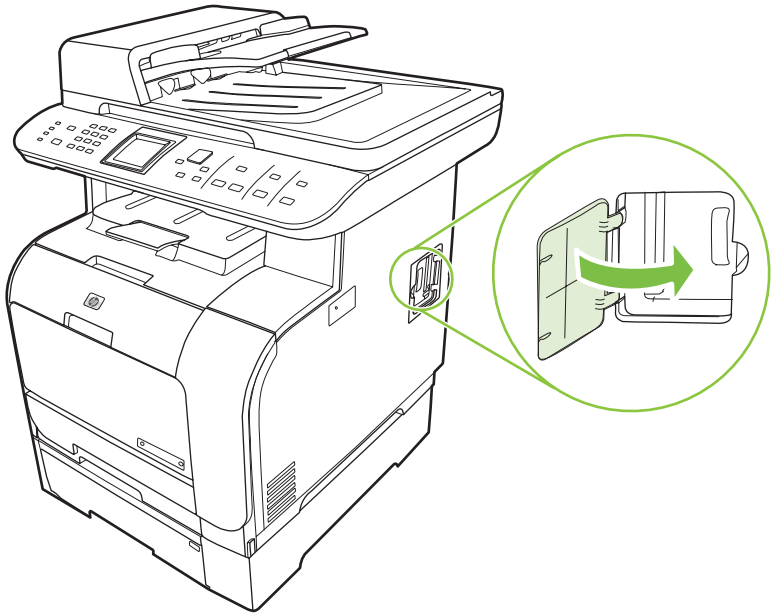
5. Close the DIMM door.



6. Reconnect all cables and cords, and then use the power switch to turn on the product.

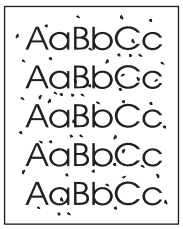
7. Print a configuration page, and then verify that the Memory section shows the new memory amount. See Information pages on page 168.

Clean the product

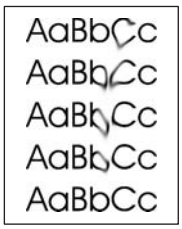
Clean the paper path

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. This product has a cleaning mode that can correct and prevent these types of problems.

Specks



Smearing



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Clean the paper path from HP ToolboxFX

Use HP ToolboxFX to clean the paper path. This is the recommended cleaning method. If you do not have access to HP ToolboxFX, use the process from the control panel.

1. Make sure that the product is turned on and in the Ready state, and that media is loaded in tray 1 or tray 2.
2. Open HP ToolboxFX, click the product, and then click the **System Settings** tab.
3. Click the **Service** tab, and then click **Start**.

   A page feeds through the product slowly. Discard the page when the process is completed.

Clean the paper path from the product control panel

If you do not have access to HP ToolboxFX, you can print and use a cleaning page from the product control panel.

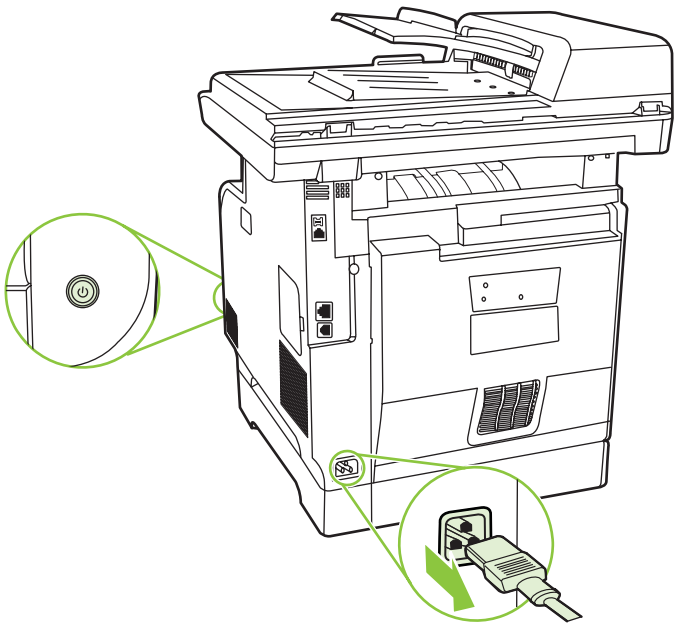
1. Press Setup.
2. Use the arrow buttons to find the **Service** menu, and then press OK.
3. Use the arrow buttons to find **Cleaning mode**, and then press OK.
4. Load plain letter or A4 paper when you are prompted.
5. Press OK again to confirm and begin the cleaning process.

   A page feeds through the product slowly. Discard the page when the process is completed.

Clean the automatic document feeder (ADF) pickup roller assembly

If the ADF has trouble feeding documents, clean the ADF pickup roller assembly.

1. Turn off the product and unplug the power cord.



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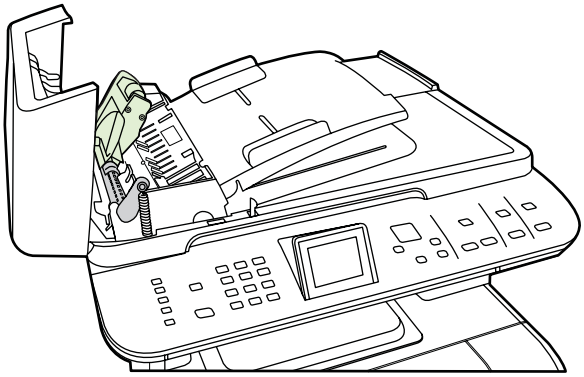
2. Open the ADF cover.

3. Rotate the assembly upward. Wipe it clean and rotate the rollers until the assembly is clean.



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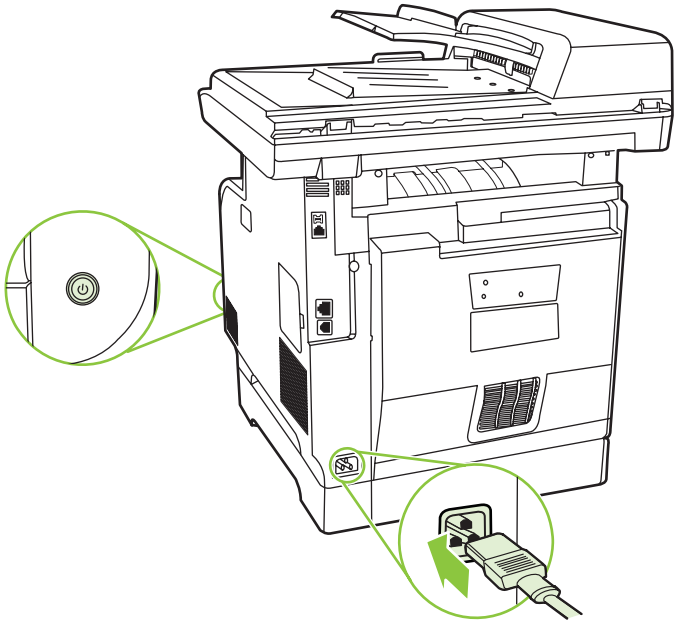
4. Lower the green lever assembly and close the ADF cover.

NOTE: If you are experiencing jams in the ADF, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

5. Plug in the product, and then turn on the product.



Clean the lid backing

Minor debris can accumulate on the white document lid backing that is located underneath the product lid.

1. Turn off the product, unplug the power cord, and raise the lid.

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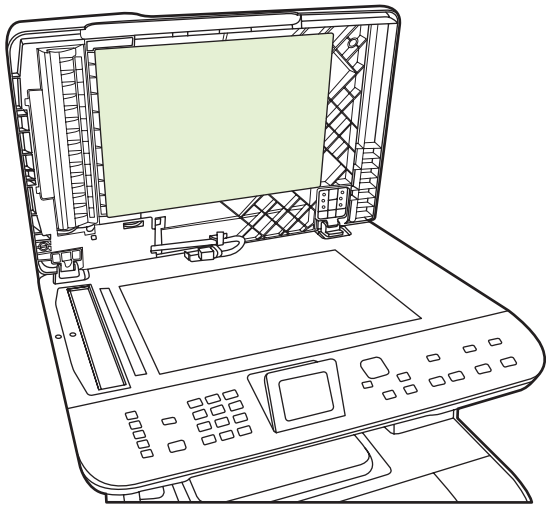
2. Clean the white document lid backing by using a soft cloth or sponge that has been moistened with a mild soap and warm water. Wash the backing gently to loosen debris; do not scrub the backing.



3. Also, clean the scanner strip next to the ADF scanner glass.

4. Dry the backing by using a chamois or soft cloth.

△ **CAUTION:** Do not use paper-based wipes because they might scratch the backing.

5. If this does not clean the backing well enough, repeat the previous steps and use isopropyl alcohol to dampen the cloth or sponge, and then wipe the backing thoroughly with a damp cloth to remove any residual alcohol.

Clean the scanner glass

Dirty glass, from fingerprints, smudges, hair, and so on, slows down performance and affects the accuracy of special features such as fit-to-page and copy.

NOTE: If streaks or other defects appear only on copies produced using the automatic document feeder (ADF), clean the scanner strip (step 3). It is not necessary to clean the scanner glass.

1. Turn off the product, unplug the power cord from the electrical socket, and raise the lid.

NOTE: In certain areas of California, air pollution control regulations restrict the use of liquid Isopropyl Alcohol (IPA) as a cleaning agent. In those areas of California, please disregard the previous recommendations and use a dry, lint-free cloth. The cloth may be moistened with water if desired.

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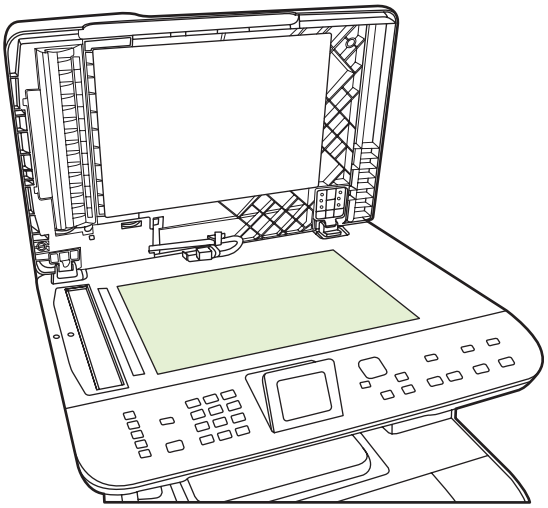
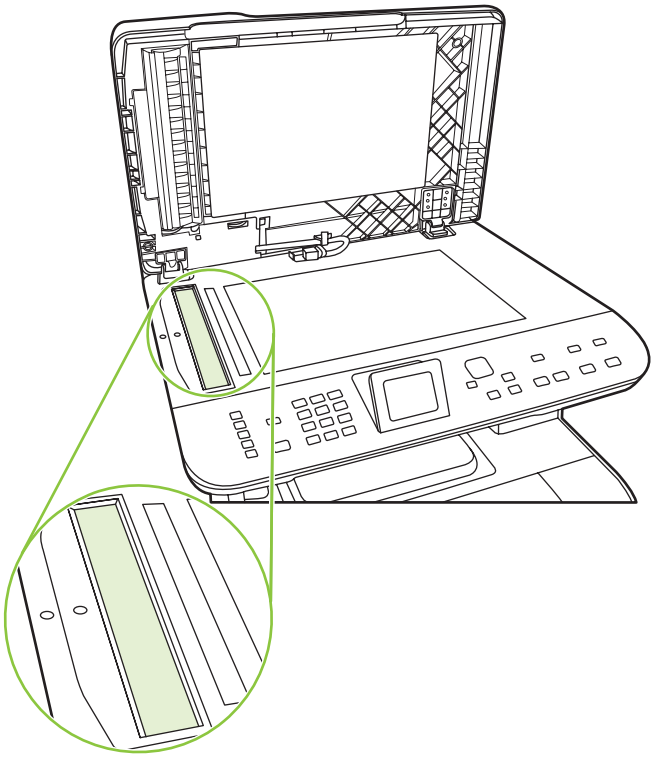
2. Clean the glass by using a soft, lint-free cloth or sponge that has been moistened with nonabrasive glass cleaner.



△ **CAUTION:** Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the product; these can damage the product. Do not place liquids directly on the glass. They might seep under it and damage the product.

3. Clean the scanner strip (ADF models only) by using a soft, lint-free cloth or sponge that has been moistened with nonabrasive glass cleaner..



4. To prevent spotting, dry the glass by using a chamois or cellulose sponge.

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Clean the exterior

Use a soft, damp, lint-free cloth to wipe dust, smudges, and stains off of the exterior of the product.

Firmware updates

Firmware updates and installation instructions for this product are available at www.hp.com/support/CM2320series. Click **Downloads and drivers**, click the operating system, and then select the firmware download for the product.

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15 Problem solve

- Problem-solving checklist
- Restore the factory-set defaults
- Control-panel messages
- Clear jams
- Solve image-quality problems
- Solve connectivity problems
- Solve software problems
- Solve scan-to-e-mail problems

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Problem-solving checklist

Follow these steps when trying to solve a problem with the product.

Step number	Verification step	Possible problems	Solutions
1	**Is the power on?**	No power due to failed power source, cable, switch, or fuse.	1. Verify that the product is plugged in. 2. Verify that the power cable is functional and that the power switch is on. 3. Check the power source by plugging the product directly into the wall or into a different outlet.
		Print engine motor does not rotate.	1. Verify that the print cartridges are properly installed. Look at the control-panel messages and follow the instructions to remove and replace the cartridges. 2. Verify that the top cover is closed
		ADF motor does not rotate.	1. Open the ADF cover and remove any orange shipping tape inside the ADF. 2. Verify that the ADF cable is connected correctly to the scanner. 3. If the ADF motor still does not rotate, replace the ADF.
		Scanner bulb does not light.	If the scanner bulb does not light, contact HP Support.
2	**Does Ready appear in the product control panel?** The control panel should function without error messages.	Control panel shows an error.	See Control-panel messages on page 203 for a list of common messages that will help you correct the error.
3	**Do information pages print?** Print a configuration page. See Information pages on page 168.	An error message appears on the control-panel display.	See Control-panel messages on page 203 for a list of common messages that will help you correct the error.
		Paper jams when printing.	Make sure that media that meets HP specifications. See Paper and print media on page 53 Clean the paper path. See Clean the paper path on page 191.

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Step number	Verification step	Possible problems	Solutions
4	**Does the product copy?** Place the configuration page into the ADF and make a copy. The report should feed smoothly through the ADF, and copies should print without print-quality problems. Make a copy from the flatbed as well.	Poor copy quality from the ADF.	If the print quality from the internal tests and the copy from the flatbed were acceptable, clean the ADF scanning strip. See Clean the scanner glass on page 195. The ADF is damaged. Replace the ADF.
		Paper jams when printing.	Make sure that media that meets HP specifications. See Paper and print media on page 53 Clean the paper path. See Clean the paper path on page 191.
		Poor copy quality from the flatbed.	1. If the print quality from the internal tests and the copy from the ADF were acceptable, clean the flatbed glass. See Clean the scanner glass on page 195. 2. If, after performing the maintenance, the problem persists, see Copy problems on page 227.
		Media does not move smoothly through the ADF path.	1. Clean the ADF pick roller and the ADF separation pad. See Clean the automatic document feeder (ADF) pickup roller assembly on page 192. 2. If the problem persists, replace the ADF pick roller. 3. If the problem persists, replace the ADF.
5	**Does the product send a fax?** Press Start Fax to verify that a dial tone exists (using a hand set, if necessary). Attempt to send a fax.	The telephone line is not operational or the product is not plugged into the telephone line.	Perform a fax test to verify that the phone line works and is plugged into the correct port (see Perform a fax test on page 152).
6	**Does the product receive a fax?** Use another fax machine to send a fax to the product, if available.	You might need to provide a password.	Type the password.
		Too many telephone devices are plugged in, or telephone devices are not connected in the correct order.	Make sure that the HP Color LaserJet CM2320 MFP Series is the only device on the telephone line and try again to receive the fax.
		The product fax settings are set incorrectly.	Review and reset the product fax settings. See Change fax settings on page 123
		The Private Receive feature is turned on.	Turn Private Receive off or use the preset PIN to access and print the faxes.

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Step number	Verification step	Possible problems	Solutions
7	**Does the product print from the computer?** Use a word-processing program to send a print job to the product.	Software is not installed correctly or an error occurred during software installation.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
		The cable is not connected correctly.	Reconnect the cable.
		An incorrect driver is selected.	Select the proper driver.
		There is a port driver problem in Microsoft Windows.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
8	**Does the product scan to the computer?** Initiate a scan from the basic desktop software at your computer.	The cable is not connected correctly.	Reconnect the cable.
		Software is not installed correctly or an error occurred during software installation.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
		If the error persists, turn off the product and then turn on the product.	
9	**Does the device recognize and print from a memory card?** Insert a memory card and print an index page. See Print a memory card thumbnail sheet on page 164.	The device does not recognize the card.	1. Remove the card and reinsert it into the slot. Verify that the card is fully inserted into the slot. 2. Verify that the memory-card type is a supported type. 3. Verify that only one card is inserted in the memory card slots.
		The device does not print certain images.	Verify that the files on the memory card are in the correct format. The device recognizes only SRGB format .JPEG files.

Restore the factory-set defaults

Restoring the factory-set defaults returns all of the settings to the factory defaults, and it also clears the fax header name, phone number, speed dials, and any stored faxes in the product memory.

△ **CAUTION:** This procedure also clears all fax numbers and names that are associated with one-touch keys and speed-dial codes, and deletes any pages that are stored in the memory. The procedure then automatically restarts the product.

1. On the product control panel, press Setup.
2. Use the arrows buttons to select **Service**, and then press OK.
3. Use the arrows buttons to select **Restore defaults**, and then press OK.

   The product automatically restarts.

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Control-panel messages

The majority of the control-panel messages are intended to guide the user through typical operation. The control-panel messages indicate the status of the current operation, and include a page count, if appropriate. When the product is receiving fax data, print data, or scanning commands, control-panel messages indicate this status. In addition, alert messages, warning messages, and critical error messages indicate situations that might require some action.

Table 15-1 Control-panel messages

Control panel message	Description	Recommended action
10.0000 Supply Memory Error	A specific print cartridge has an e-label error. • 10.0000 = black • 10.0001 = cyan • 10.0002 = magenta • 10.0003 = yellow	Remove and reinstall the print cartridge. Turn off and then turn on the product. If the problem is not solved, replace the cartridge.
10.1000 Supply Memory Error	A specific print cartridge has a faulty or missing e-label.	Reinstall the print cartridge. Turn off and then turn on the product. If the problem is not solved, replace the cartridge.
49 Error, Turn off then on	The product has experienced a firmware error. Under most conditions, the product will power cycle automatically.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
50.x Fuser Error	The product has experienced an internal hardware error.	1. Turn off the power by using the power switch, and then wait at least 30 seconds. 2. If a surge protector is being used, remove it. Plug the product directly into the wall socket. 3. Turn on the power and wait for the product to initialize. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
52 Scanner Error	The product has experienced an internal hardware error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

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Table 15-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
57 Fan Error, Turn off then on	The product has experienced a problem with its internal fan.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
79 Error Turn off then on	The product has experienced an internal firmware error. Under most conditions, the product will power cycle automatically.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on. If a memory DIMM is installed, turn the product off and remove the DIMM. Then turn on the product and see if the problem is resolved. If so, replace the DIMM. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
ADF door is open	The ADF lid is open or a sensor is malfunctioning.	Make sure that the ADF lid is closed. Remove the ADF and reinstall it. If the message persists, turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Canceled copy. Clear document	The Cancel button was pressed to cancel the current job while pages were feeding from the ADF. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Clear jams from the ADF on page 215. Then, clear the items in the ADF tray and start over.
Comm. error [Sender CSID]	A fax communication error occurred between the product and the sender.	Run a fax line test. Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. Try a different phone cord. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Device error, press OK	Generic engine error.	This is a warning message only. Job output might be affected.
Device is busy. Try again later	The product is currently in use.	Wait for the product to finish the current job.
Doc feeder jam	ADF has not been cleared since previous jam.	Clear the jam.

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Table 15-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
Doc feeder jam Clear, Reload	A piece of media is jammed in the ADF tray.	Open the document release door, clear the jam, close the document release door, and reload the paper into the ADF tray. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Document feeder mispick. Reload	Media in the ADF tray was not picked up.	Remove the media from the ADF tray, and then reload it. Clean the ADF pickup roller. See Clean the automatic document feeder (ADF) pickup roller assembly on page 192. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Door open	The print-cartridge door is open.	Close the print-cartridge door.
Engine Comm. Error	The product has experienced an engine communication timeout error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
Engine comm. error	The product experienced a print engine communication error.	Actions that do not require the print engine (such as sending a fax) can still be performed; however, printing is not available.
Engine error, press OK	The product experienced a print engine error.	This is a warning message only. Job output might be affected.
Fit to Page on flatbed only	The copy reduce/enlarge feature (called "Fit to Page") applies only to copies made from the flatbed scanner.	Use the flatbed or select another reduction/ enlargement setting.
Install black cartridge **Install cyan cartridge** **Install magenta cartridge** **Install yellow cartridge**	One of the color cartridges is not installed with the door closed.	Install the indicated color cartridge.
Invalid driver Press OK	You are using the incorrect printer driver.	Select the printer driver that is appropriate for your product.
Invalid entry	Invalid data or response.	Correct the entry.
Jam in (area), Open door and clear jam	Paper jam in one of the following areas: drum area, fuser area, duplex feeding area, duplex receiving area, and duplex pickup area.	Clear the jam from the area indicated on the product control panel, and then follow the control panel instructions. See Clear jams on page 207.
Jam in Tray #, Clear jam and then press OK	The product has detected a jam in one of the following areas: tray 1, tray 2, or tray 3.	Clear the jam from the area indicated on the product control panel, and then follow the

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Table 15-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
		control panel instructions. See Clear jams on page 207.
Load paper	Out of paper in all available trays.	Load paper in trays.
Load Tray # <TYPE> <SIZE>, Press OK to use available media	Device is processing job, but a matching tray is empty.	Press OK to use existing available media.
Load Tray 1, <PLAIN> <SIZE> / Cleaning mode, OK to start	Load a clean blank sheet of paper. Cleaning mode paper prompt.	Press OK to begin the cleaning procedures.
Manual duplex Load tray #, Press OK	Manual duplex mode. "#" is the tray number where the first half of the job printed.	Load paper in the correct tray in the correct orientation.
Manual feed <SIZE> <TYPE>, Press OK to use available media	Print Manual Feed mode.	Load paper into tray 1.
Memory is low Try again later	The product does not have enough memory to start a new job.	Wait until the current job is finished before starting a new job. Turn power off and then on to clear memory.
Memory is low. Press OK	The product memory has been almost completely filled.	Allow the product to finish the job, or press Setup to cancel the job. Turn power off and then on to clear memory.
Memory low Only 1 copy made Press OK to continue	The product does not have enough memory to complete the collated copy job.	Break the job into smaller jobs that contain fewer pages. Turn power off and then on to clear memory.
Misprint, Press OK	Feed delay misprint.	Verify that the media was inserted far enough into the input tray. In tray 2, verify that the paper-length guide is in the correct position for the media size that you are using. Reload paper.
Non-HP supply Installed	A new supply has been installed that is not made by HP. This message is appears for several seconds, and then the product returns to the Ready state.	If you believe you purchased an HP supply, please call the HP fraud hotline at 1-877-219-3183. Service or repairs that are required as a result of using non-HP supplies is not covered under HP warranty.
Order black cartridge **Order cyan cartridge** **Order magenta cartridge** **Order yellow cartridge**	A color print cartridge is low.	Order the indicated color print cartridge.
Print failure Press OK If error repeats turn off then on	The product could not print the current page because of its complexity.	PressSetup to clear the message. Allow the product to finish the job, or press Cancel to cancel the job.
Scanner error #, Turn off then on	The product has experienced an error in the scanner sub-assembly area.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on. If the error persists, contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

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Table 15-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
Scanner reserved for PC scan	A computer is using the product to create a scan.	Wait until the computer scan has finished, or cancel the scan from the computer software, or press Cancel.
Scanning error Cannot connect	The product cannot transmit scan information to a computer.	Verify that the connection cable is not loose or damaged. Replace the cable if necessary, and try the scan again.
Settings cleared	The product has cleared job settings.	Re-enter any appropriate job settings.
Used black installed alternates with **to accept, press OK**	A used printer cartridge has been installed or moved.	Press OK to return to the Ready state.

Clear jams

Causes of jams

Occasionally, paper or other print media can become jammed during a print job. Some causes include the following events:

- The input trays are loaded improperly or overfilled, or the media guides are not set properly.
- Media is added to or removed from an input tray during a print job or an input tray is removed from the product during a print job.
- The cartridge door is opened during a print job.
- Too many sheets have accumulated in an output area, or sheets are blocking an output area.
- The print media that is being used does not meet HP specifications. See Paper and print media on page 53.
- The media is damaged or has foreign objects attached to it, such as staples or paper clips.
- The environment in which the print media was stored is too humid or too dry. See Paper and print media on page 53.

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Where to look for jams

Jams can occur in these locations:

- In the automatic document feeder (ADF)
- In input areas
- In the automatic duplexer (where applicable)
- In output areas
- Inside the product (paper path)

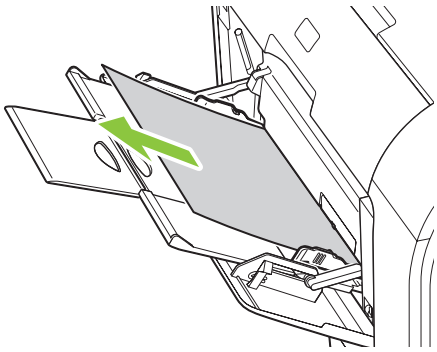
Find and remove the jam by using the instructions on the following pages. If the location of the jam is not obvious, first look inside the product.

Loose toner might remain in the product after a jam. This problem typically resolves itself after a few sheets have been printed.

Clear jams in tray 1

NOTE: If the sheet tears, make sure that all of the fragments are removed before you resume printing.

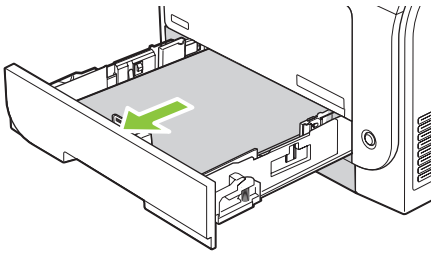
Pull the jammed sheet from tray 1.



If paper has entered far enough into tray 1, remove tray 2, drop the tray 1 plate down, and then remove the paper from the opening.

Clear jams in tray 2

1. Pull out tray 2 and place it on a flat surface.



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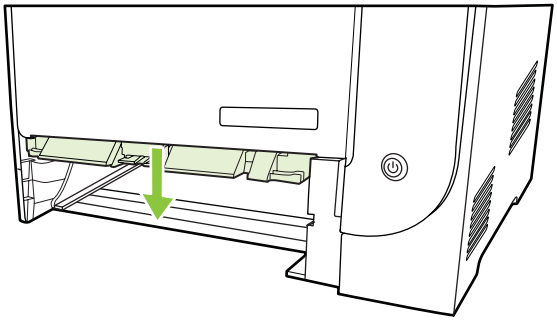
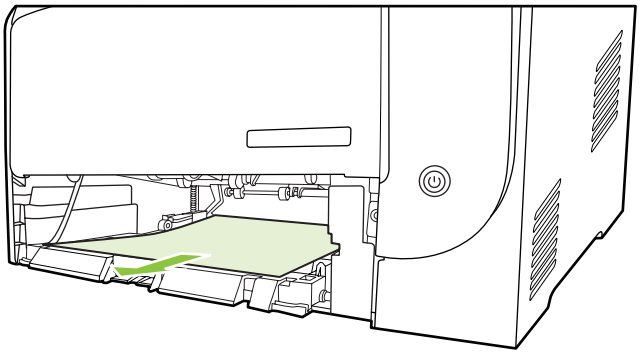
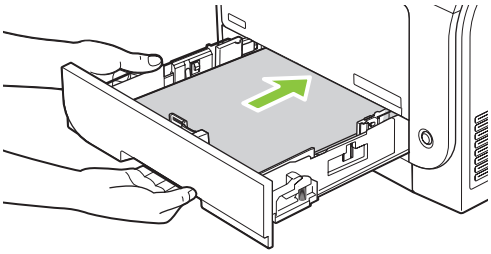
2. Lower the jam-access tray.



3. Remove the jammed sheet by pulling it straight out.



4. Close the jam-access tray.
5. Replace tray 2.



6. Press **OK** to continue printing.

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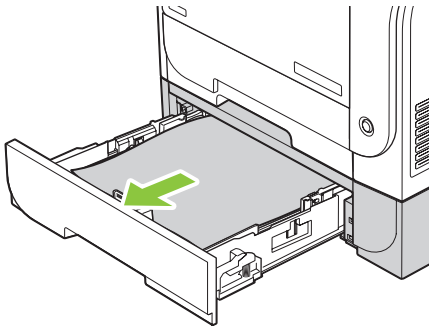
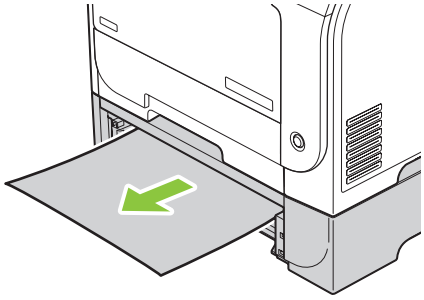
Clear jams in tray 3

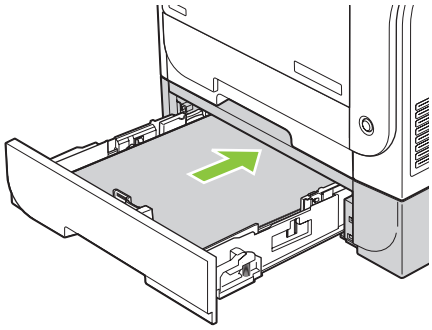
1. Pull out tray 3 and place it on a flat surface.



2. Remove the jammed sheet by pulling it straight out.



3. Replace tray 3.



4. Press **OK** to continue printing.

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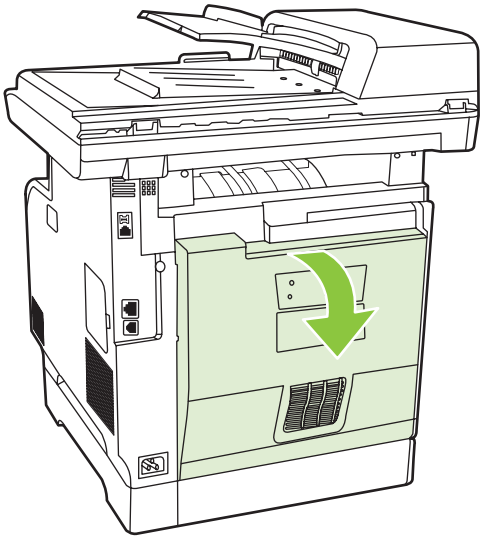
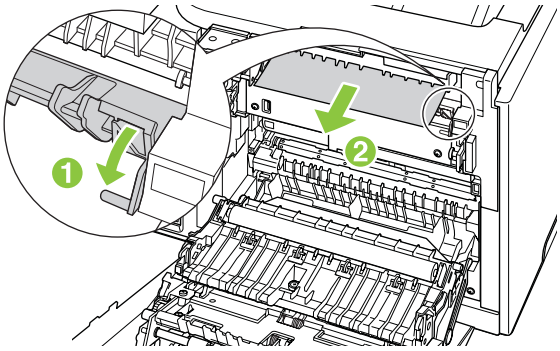
Clear jams in fuser area

1. Open the rear door.



2. If necessary, push the guide (callout 1) and remove any visible paper (callout 2) from the bottom of the delivery area.



NOTE: If the sheet tears, make sure that all fragments are removed before you resume printing. Do not use sharp objects to remove fragments.

3. Close the rear door.

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Clear jams in output bin

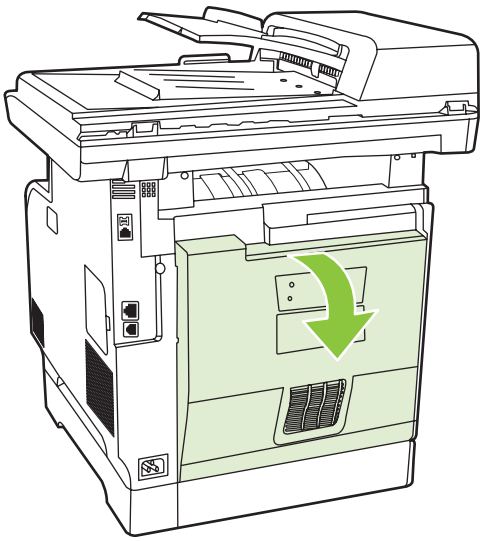
1. Look for jammed paper in the output bin area.
2. Remove any visible media. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the product.

NOTE: If the sheet tears, make sure that all fragments are removed before resuming printing.

3. Open and then close the rear door to clear the message.

Clear jams in duplexer (duplexing models only)

1. Open the rear door.



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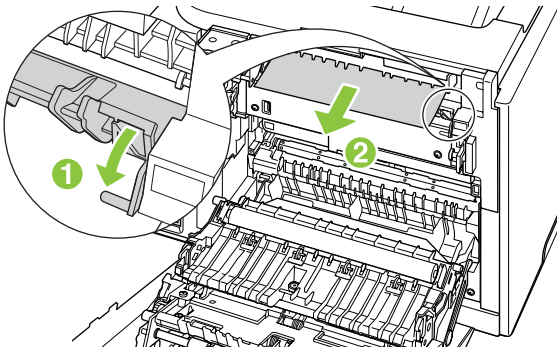
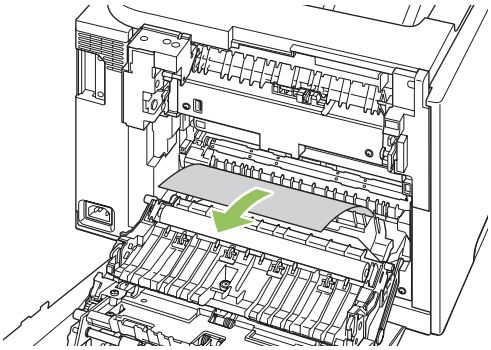
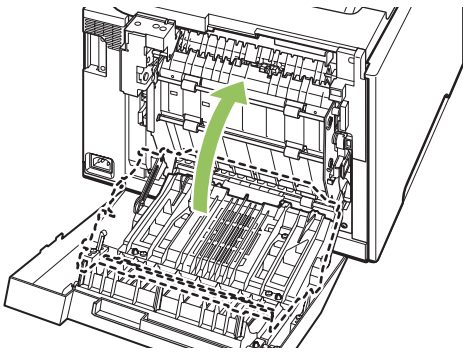
2. If necessary, pull the guide (callout 1) and remove any visible paper (callout 2) from the bottom of the delivery area.



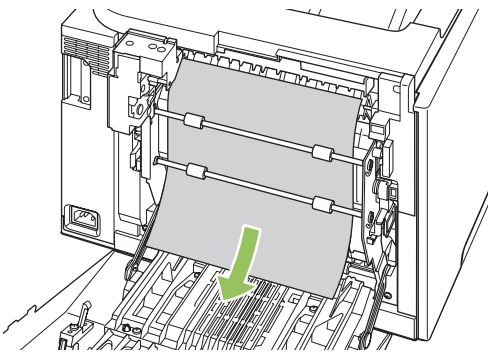
3. If necessary, remove any visible paper from bottom side of the duplexing unit.



4. If you can not see any jammed paper, lift the duplexing unit using the tab on the side of the duplexing unit.



5. If you can see the trailing edge of the paper, remove the paper from the product.



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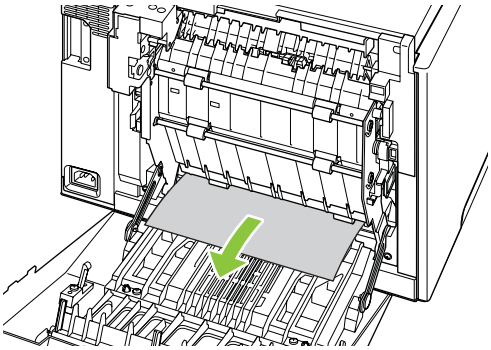
6. If you can see the leading edge of the paper, remove it from the product.



7. Close the rear door.

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Clear jams from the ADF

Occasionally, media becomes jammed during a fax, copy, or scan job.

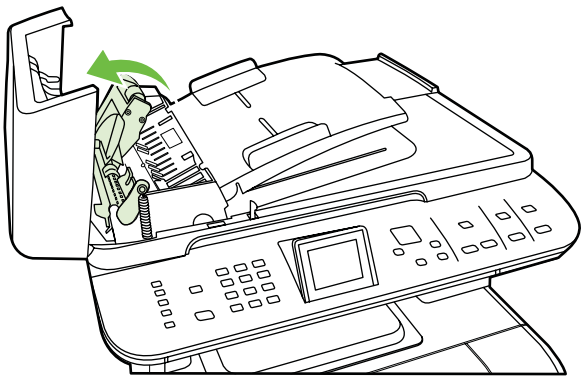
You are notified of a media jam by the **Doc feeder jam Clear, Reload** message that appears on the product control-panel display.

- The ADF input tray is loaded incorrectly or is too full. See Load paper and print media on page 59 for more information.
- The media does not meet HP specifications, such as those for size or type. See Paper and print media on page 53 for more information.

1. Open the ADF cover.

NOTE: Verify that any shipping tape inside the ADF has been removed.

2. Lifting the green lever, rotate the pick mechanism until it stays open.



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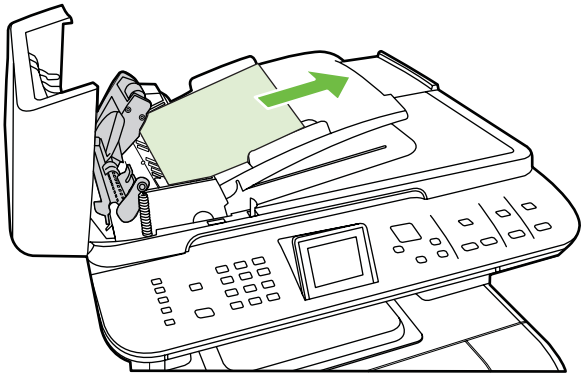
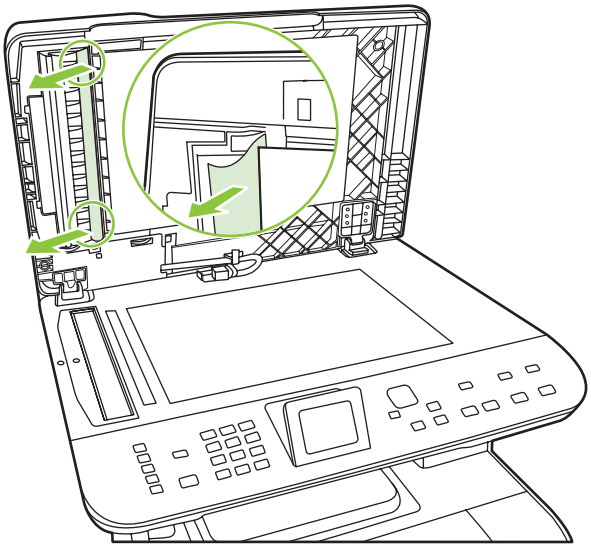
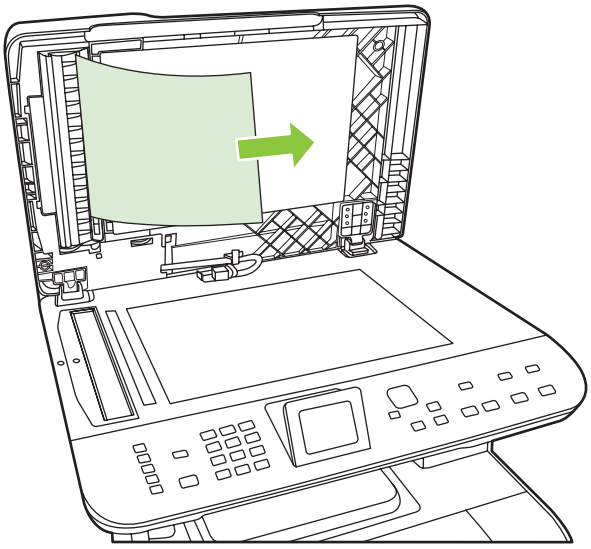
3. Gently try to remove the page without tearing it. If you feel resistance, go to the next step.



4. Open the ADF lid and gently loosen the media by using both hands.



5. When the media is free, gently pull it out in the direction shown.



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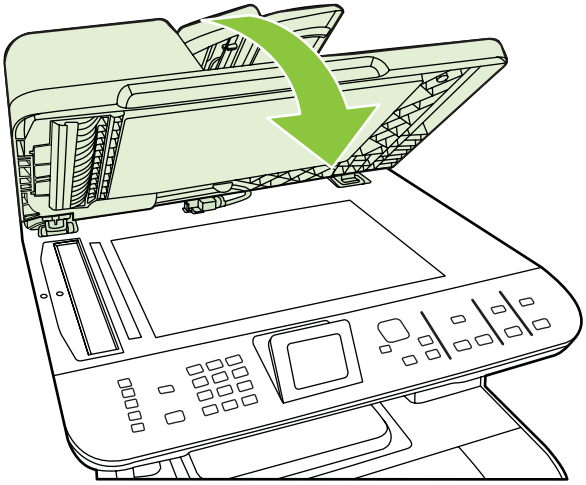
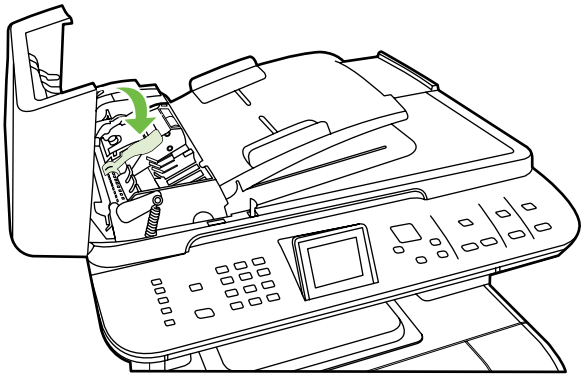
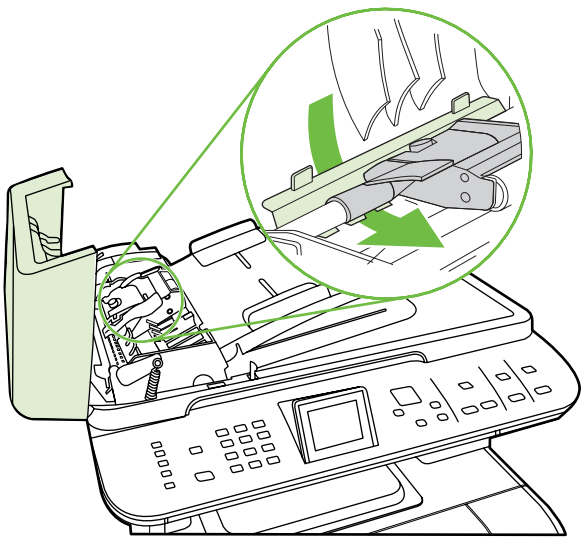
6. Close the lid to the flatbed scanner.



7. Lower the green lever.



8. Reinstall the cleanout part by inserting it as shown. Push down on the two tabs until the part snaps into place. Install the cleanout part correctly, because future jamming might occur if the cleanout part is not replaced correctly.



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9. Close the ADF lid.

Avoid repeated jams

- Verify that the input tray is not overfilled. The input tray capacity varies depending on the type of print media that you are using.
- Verify that the media guides are properly adjusted.
- Check that the input tray is securely in place.
- Do not add print media into the input tray while the product is printing.
- Use only HP-recommended media types and sizes. See Paper and print media on page 53 for more information about print media types.
- Do not fan media prior to loading it in a tray. To loosen the ream, hold it firmly in both hands and twist the media by rotating your hands in the opposite direction.
- Do not let print media stack up in the output bin. The print media type and the amount of toner used affect the output bin capacity.
- Check the power connection. Make sure that the power cord is firmly connected to both the product and the power supply box. Plug the power cord into a grounded power outlet.

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Solve image-quality problems

Print problems

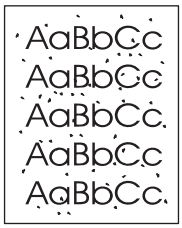
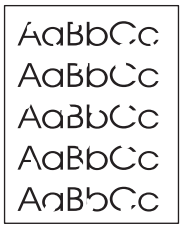
Print quality problems

Occasionally, you might encounter problems with print quality. The information in the following sections helps you identify and resolve these issues.

NOTE: If you are having copy problems, see Copy problems on page 227.

General print quality issues

The following examples depict Letter-size paper that has passed through the product short-edge first. These examples illustrate problems that would affect all of the pages that you print, whether you print in color or in black only. The topics that follow list the typical cause and solution for each of these examples.

Problem	Cause	Solution
Print is light or faded. 	The media might not meet HP specifications.	Use media that meets HP specifications. Do not use inkjet paper.
	One or more print cartridges might be defective.	Print the Supplies status page to check the remaining life. See Information pages on page 168. Replace any low print cartridges. See Print cartridge on page 185.
	The product is set to override the **Replace [color] cartridge** message and to continue printing.	Replace any low print cartridges. See Print cartridge on page 185.
Toner specks appear. 	The media might not meet HP specifications.	Use media that meets HP specifications.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 191.
Dropouts appear. 	A single sheet of print media might be defective.	Try reprinting the job.
	The moisture content of the paper is uneven or the paper has moist spots on its surface.	Try different paper, such as high-quality paper that is intended for color laser printers.
	The paper lot is flawed. The manufacturing processes can cause some areas to reject toner.	Try different paper, such as high-quality paper that is intended for color laser printers.

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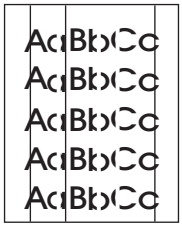
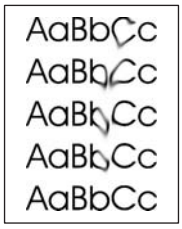
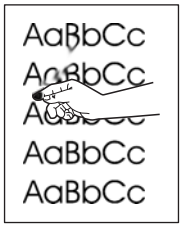
Problem	Cause	Solution
Vertical streaks or bands appear on the page. 	One or more print cartridges might be defective.	Print the Supplies status page to check the remaining life. See Information pages on page 168. Replace any low print cartridges. See Print cartridge on page 185.
	The product is set to override the **Replace [color] cartridge** message and to continue printing.	Replace any low print cartridges. See Print cartridge on page 185.
The amount of background toner shading becomes unacceptable. 	Very dry (low humidity) conditions can increase the amount of background shading.	Check the device environment.
	One or more print cartridges might be defective.	Replace any low print cartridges. See Print cartridge on page 185.
	The product is set to override the **Replace [color] cartridge** message and to continue printing.	Replace any low print cartridges. See Print cartridge on page 185.
Toner smears appear on the media. 	The media might not meet HP specifications.	Use media that meets HP specifications.
	If toner smears appear on the leading edge of the paper, the media guides are dirty, or debris has accumulated in the print path.	Clean the media guides. Clean the paper path. See Clean the product on page 191.
The toner smears easily when touched. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of media on which you are printing. Print speed might be slower if you are using heavy paper.
	The media might not meet HP specifications.	Use media that meets HP specifications.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 191.

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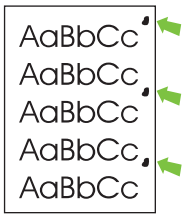
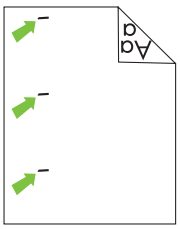
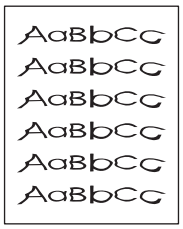
Problem	Cause	Solution
Marks repeatedly appear at even intervals on the printed side of the page. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 191.
	The fuser might be damaged or dirty.	To determine if the fuser has a problem, open the HP ToolboxFX and print the print-quality diagnostics page. See HP ToolboxFX on page 32. Contact HP Support. See the support flyer that came in the box.
	A print cartridge may have a problem.	To determine which cartridge has a problem, open the HP ToolboxFX and print the print-quality diagnostics page. See HP ToolboxFX on page 32.
Marks repeatedly appear at even intervals on the unprinted side of the page. 	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 191.
	The fuser might be damaged or dirty.	To determine if the fuser has a problem, open the HP ToolboxFX and print the print-quality diagnostics page. See HP ToolboxFX on page 32. Contact HP Support. See the support flyer that came in the box.
The printed page contains misformed characters. 	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	If characters are incorrectly formed so that they produce a wavy effect, the laser scanner might need service.	Verify that the problem also occurs on the Configuration page. If so, contact HP Support. See the support flyer that came in the box.

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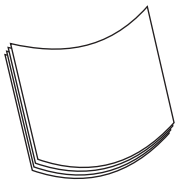
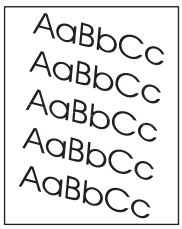
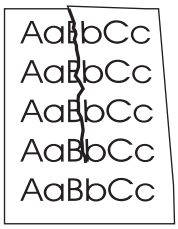
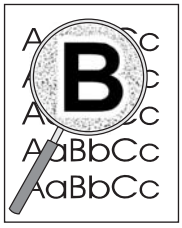
Problem	Cause	Solution
The printed page is curled or wavy. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
	The **Service** menu item **Less paper curl** is set to **Off**.	Use the control-panel menus to change the setting. See Control-panel menus on page 10.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	Both high temperature and humidity can cause paper curl.	Check the device environment.
Text or graphics are skewed on the printed page. 	The media might be loaded incorrectly.	Make sure that the paper or other print media is loaded correctly and that the media guides are not too tight or too loose against the stack. See Load paper and print media on page 59.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
The printed page contains wrinkles or creases. 	The media might be loaded incorrectly.	Verify that the media is loaded correctly and that the media guides are not too tight or too loose against the stack. See Load paper and print media on page 59. Turn over the stack of paper in the input tray, or try rotating the paper 180° in the input tray.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
Toner appears around the printed characters. 	The media might be loaded incorrectly.	Turn over the stack of paper in the tray.
	If large amounts of toner have scattered around the characters, the paper might have high resistivity.	Use a different paper, such as high-quality paper that is intended for color laser printers.

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Problem	Cause	Solution
An image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field). 	Software settings might affect image printing.	In your software program, change the tone (darkness) of the field in which the repeated image appears. In your software program, rotate the whole page 180° to print the lighter image first.
	The order of images printed might affect printing.	Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.
	A power surge might have affected the device.	If the defect occurs later in a print job, turn the device off for 10 minutes, and then turn on the device to restart the print job.

Solve issues with color documents

This section describes issues that can occur when you print in color.

Problem	Cause	Solution
Only black is printing when the document should be printing in color. 	Color mode is not selected in your program or printer driver.	Select color mode instead of grayscale mode.
	The correct printer driver might not be selected in the program.	Select the correct printer driver.
	The device might not be correctly configured.	Print a Configuration page (see Information pages on page 168). If no color appears on the Configuration page, contact HP Support. See the support flyer that came in the box.
One or more colors are not printing, or are inaccurate. 	Sealing tape might be on the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	The device might be operating in excessively humid conditions.	Verify that the device environment is within humidity specifications.
	One or more print cartridges might be defective.	Replace any low print cartridges. See Print cartridge on page 185.
	The product is set to override the **Replace [color] cartridge** message and to continue printing.	Replace any low print cartridges. See Print cartridge on page 185.

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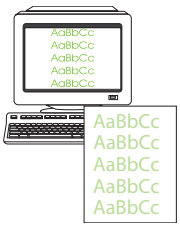
Problem	Cause	Solution
A color is printing inconsistently after you load a new print cartridge. 	Another print cartridge might be defective.	Remove the print cartridge for the color that is printing inconsistently and reinstall it.
	The product is set to override the **Replace [color] cartridge** message and to continue printing.	Replace any low print cartridges. See Print cartridge on page 185.
The colors on the printed page do not match the colors as they appear on the screen. 	The colors on your computer monitor might differ from the device output.	See Match colors on page 92
	If extremely light colors or extremely dark colors on screen are not printing, your software program might interpret extremely light colors as white or extremely dark colors as black.	If possible, avoid using extremely light or extremely dark colors.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
The finish on the printed color page is inconsistent. 	The media might be too rough.	Use a smooth paper or print media, such as a high-quality paper that is made for color laser printers. Generally, smoother media produces better the results.

Media-handling problems

Use the information in this section when the product experiences media-handling problems.

Print-media guidelines

- For best results, make sure that the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- For best-quality printing, use a smooth type of paper. Generally, smoother media produces better results. .
- If you are unsure what type of paper you are loading (such as bond or recycled), check the label on the package of paper.
- Do not use media that is designed for inkjet printers only. Use media that is designed for laser printers.

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- Do not use letterhead paper that is printed with low-temperature inks, such as those used in some types of thermography.
- Do not use raised or embossed letterhead.

△ **CAUTION:** Failure to follow these guidelines could cause jams or damage to the product.

Solve print-media problems

The following problems with media cause print-quality deviations, jamming, or even damage to the product.

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of recommended paper.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
	High fuser temperature is curling the paper.	Turn on the **Less paper curl** setting. At the control panel, press Setup, use the arrow buttons to select Service, and then press OK. Use the arrow buttons to select Less paper curl, press OK, use the arrow buttons to select On, and then press OK.
Jamming, damage to product	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of recommended paper.
		Open the rear output bin, or use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.

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Problem	Cause	Solution
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove all media from the tray, and then return some of the media to the tray. See Load paper and print media on page 59.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.
	The media might have been fanned before it was loaded.	Load media that was not fanned. Loosen ream by twisting paper stack.
	Media might be too dry.	Load new paper that was stored properly.
The product does not pull media from the media input tray.	The product might be in manual feed mode.	• If **Manual feed** appears on the product control-panel display, press OK to print the job. • Verify that the product is not in manual feed mode and print your job again.
	The pickup roller might be dirty or damaged.	Contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
	The paper-length adjustment control in tray 2 or optional tray 3 is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

Performance problems

Try the tips in this section if pages exit the product, but have nothing printed on them, or when the product does not print any pages.

Problem	Cause	Solution
Pages print but are totally blank.	The sealing tape might still be in the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The document might contain blank pages.	Check the document that you are printing to see if content appears on all of the pages.
	The product might be malfunctioning.	To check the product, print a configuration page. See Information pages on page 168.
	Certain media types can slow the print job.	Print on a different type of media.

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Problem	Cause	Solution
Pages did not print.	The product might not be pulling media correctly.	See Media-handling problems on page 224.
	The media might be jamming in the product.	Clear the jam. See Clear jams on page 207.
	The USB cable or the network cable might be defective or incorrectly connected.	• Disconnect the cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB or network cable. • Verify that you are using a certified USB 2.0 cable.
	The product IP address might have been changed.	From the control panel, print a configuration page. Confirm the IP address with that listed in the **Product setting** dialog box.
	The product might not be set up as the default printer.	Open the **Printers** or **Printers and Faxes** dialog box, right click the product, and then click **Set as Default Printer**.
	The product might have encountered an error.	Check the control panel for an error message. See Control-panel messages on page 203.
	The product might be paused or offline.	Open the **Printers** or **Printers and Faxes** dialog box, and verify that the product status is Ready. If it is Paused, right-click the product and click **Resume Printing**.
	The product might not be receiving power.	Check the power cord and verify that the product is turned on.
	Other devices are running on your computer.	The product might not share a USB port. If you have an external hard drive or network switchbox that is connected to the same port as the product, the other device might be interfering. To connect and use the product, disconnect the other device or use two USB ports on the computer.

Copy problems

Prevent copy problems

The following are a few simple steps you can take to improve copy quality:

- Copy from the flatbed scanner. This will produce a higher quality copy than copying from the automatic document feeder (ADF).
- Use quality originals.
- Load the media correctly. If the media is loaded incorrectly, it might skew, causing unclear images and problems with the OCR program. See Load paper and print media on page 59 for instructions.
- Adjust the control panel settings for the type of original if the automatic settings do not produce the desired result.

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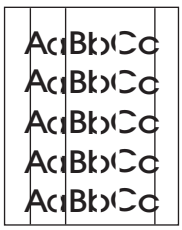
NOTE: Verify that the media meets HP specifications. If the media meets HP specifications, recurring feed problems indicate the pickup roller or separation pad is worn. Contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

Image problems

Problem	Cause	Solution
Copy edges are cropped when copying from the glass	The original is edge-to-edge or has smaller margins than those supported by this product.	Position the original 6.35 mm (1/4 inch) away from the registration corner on the glass. This product does not print edge-to-edge, so all copies will have a border.
Copy edges are cropped when copying from the ADF	The original is too long, edge-to-edge, or has smaller margins than those supported by this product.	On the control panel, press Copy setup. Use the arrow buttons to select **Reduce/ Enlarge** and press OK. Use the arrow buttons to select **Full Page=91%** and press OK. Try copying again.
Images are missing or faded.	The print-cartridge might be low.	Replace any low print cartridge and then calibrate the product. See Print cartridge on page 185.
	The original might be of poor quality.	If your original is too light or damaged, the copy might not be able to compensate, even if you adjust the contrast. If possible, find an original document in better condition. Use the control-panel to change the contrast setting.
	The original might have a colored background.	Colored backgrounds might cause images in the foreground to blend into the background, or the background might appear in a different shade. If possible, use an original document without a colored background.
	The original is larger than the scanable area	Use supported media sizes.
Vertical white or faded stripes appear on the copy. 	The media might not meet HP specifications.	Use media that meets HP specifications. See Paper and print media on page 53.
	One or more of the print cartridges may be low.	Replace any low print cartridge. See Print cartridge on page 185. If the error persists, contact HP support.
Unwanted lines appear on copy jobs only. 	The flatbed scanner or the ADF glass might be dirty.	Clean the flatbed scanner or the ADF glass. See Clean the product on page 191.
	An image exists on the back of the original, or defects exist on the scanner cover.	On the flatbed scanner, place three sheets of clean paper on top of the original, close the flatbed scanner cover, then re-scan the original.

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Problem	Cause	Solution
Black dots or streaks appear on copy jobs only.	Ink, glue, correction fluid, or an unwanted substance might be on the automatic document feeder (ADF) or flatbed scanner.	Clean the product. See Clean the product on page 191.
Copies are too light or dark.	The printer driver or product software settings may be incorrect.	Verify that the quality settings are correct. See the product software Help for more information about changing the settings.
	The product may not be calibrated.	Calibrate the product.
Text is unclear.	The printer driver or product software settings may be incorrect.	Verify that the quality settings are correct. See the product software Help for more information about changing the settings.
	The original is of poor quality.	Try copying another document. If the copy is free of defects, obtain a better-quality original.
	The product may not be calibrated.	Calibrate the product.

Media-handling problems

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of recommended paper.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
Jamming, damage to paper	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of recommended paper.
		Open the rear output bin, or use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.

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Problem	Cause	Solution
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray. See Load paper and print media on page 59.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.
The product does not pull media from the media input tray.	The product might be in manual feed mode.	• If **Manual** appears on the product control-panel display, pressOK to print the job. • Verify that the product is not in manual feed mode and print your job again.
	The pickup roller might be dirty or damaged.	Contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
	The paper-length adjustment control in tray 2 or optional tray 3 is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

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Performance problems

Problem	Cause	Solution
No copy came out.	The input tray might be empty.	Load media in the product. See Load paper and print media on page 59 for more information.
	The original might have been loaded incorrectly.	In the automatic document feeder (ADF), load the original with the narrow side forward and the side to be scanned facing up. Place the original document face-down on the flatbed scanner with the upper-left corner of the document at the corner indicated by the icon on the scanner.
Copies are blank.	The sealing tape might not have been removed from the print cartridge.	Remove the print cartridge from the product, pull out the sealing tape, and reinstall the print cartridge.
	The original might have been loaded incorrectly.	In the ADF, load the original with the narrow side leading into the ADF and the side to be scanned facing up. On the flatbed scanner, make sure that the original document is placed face-down with the upper-left corner of the document at the lower-right corner of the glass.
	The media might not meet HP specifications.	Use media that meets HP specifications. See Paper and print media on page 53.
The wrong original was copied.	The ADF might be loaded.	Make sure that the ADF is empty.
Copies are reduced in size.	The product settings might be set to reduce the scanned image.	On the control panel, select Reduce/ Enlarge from the Copy Menu and verify that it is set to **Original=100%**.

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Scan problems

Solve scanned-image problems

Problem	Cause	Solution
The scanned image is of poor quality.	The original might be a second-generation photo or picture.	• To eliminate the patterns, try reducing the size of the image after scanning. • Print the scanned image to see if the quality is better. • Verify that the resolution settings are correct for the type of scan job that you are performing. See Scanner resolution and color on page 107. • For best results, use the flatbed scanner for scanning rather than the automatic document feeder (ADF).
	The image that appears on the screen might not be an accurate representation of the quality of the scan.	• Try adjusting your computer monitor settings to use more colors (or levels of gray). Typically, you make this adjustment by opening **Display** in Windows Control Panel. • Try adjusting the resolution settings in the scanner software. See Scanner resolution and color on page 107.
	The original might have been loaded incorrectly.	Use the media guides when you load the originals into the ADF. See Load paper and print media on page 59.
	The scanner glass might be dirty.	Clean the scanner glass. See Clean the scanner glass on page 195.
	The graphics settings might not be suitable for the type of scan job that you are performing.	Try changing the graphics settings. See Scanner resolution and color on page 107.

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Problem	Cause	Solution
Part of the image did not scan.	The original might have been loaded incorrectly.	Load the original on the flatbed glass or use the media guides when you load the originals into the ADF. See Load originals for scanning on page 98.
	A colored background might be causing images in the foreground to blend into the background.	Try adjusting the settings before you scan the original or enhancing the image after you scan the original.
	The original is longer than 381 mm (15 inches).	The maximum scannable length is 381 mm (15 inches) when you use the automatic document feeder (ADF) input tray. If the page exceeds the maximum length, the scanner stops. (Copies can be longer.) **CAUTION:** Do not try to pull the original from the ADF; you might damage the scanner or your original. See Clear jams from the ADF on page 215.
	The original is too small.	The minimum size that the flatbed scanner supports is 25 x 25 mm (1 x 1 inch). The minimum size that the ADF supports is 127 x 127 mm (5 x 5 inches). The original might be jammed. See Clear jams from the ADF on page 215.
	The media size is incorrect.	In **Scan** settings, make sure that the input media size is large enough for the document that you are scanning. .
The scan takes too long	The resolution is set too high.	Change the resolution settings to the correct settings for your job. See Scanner resolution and color on page 107.
	The software is set to scan in color.	The system default is color, which takes longer to scan even when scanning a monochrome original. If you acquire an image through TWAIN or WIA, you can change the settings so that the original scans in grayscale or black-and-white. See the product software Help for details.
	A print job or copy job was sent before you tried to scan.	If someone sent a print job or copy job before you tried to scan, the scan will start if the scanner is not busy. However, because the product and scanner share memory, the scan might be slower.
	The scanning PC may not have enough available resources.	Close unused applications on the PC. If the scan is still too slow, try rebooting the scanning PC.
	Antivirus, antispyware, or firewall software on the scanning PC may slow scanning.	Consult your antivirus, antispyware, or firewall software documentation.

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Scan-quality problems

Prevent scan-quality problems

The following are a few simple steps you can take to improve copy and scan quality.

- Use the flatbed scanner, rather than the automatic document feeder (ADF) input tray, to scan.
- Use high-quality originals.
- Load the media correctly. If the media is loaded incorrectly, it might skew, which causes unclear images. See Load paper and print media on page 59 for instructions.
- Adjust the software settings according to how you plan to use the scanned page. See Scanner resolution and color on page 107 for more information.
- If your product frequently feeds more than one page at a time, the separation pad might need to be replaced. Contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.

Solve scan-quality problems

Problem	Cause	Solution
Blank pages	The original might have been loaded upside down.	In the automatic document feeder (ADF), put the top end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be scanned on top of the stack. Place the original document face-down on the flatbed scanner with the upper-left corner of the document at the corner indicated by the icon on the scanner.
Too light or dark	The resolution and color levels may be set incorrectly.	Verify that you have the correct resolution and color settings. See Scanner resolution and color on page 107.
Unwanted lines	The ADF glass might be dirty.	Clean the ADF glass. See Clean the scanner glass on page 195 (step 3).
Black dots or streaks	Ink, glue, correction fluid, or an unwanted substance might be on the glass.	Clean the flatbed scanner surface. See Clean the scanner glass on page 195.
	The power to the product might have fluctuated.	Reprint the job.
Unclear text	The resolution levels might be set incorrectly.	Verify that the correct resolution settings are correct. See Scanner resolution and color on page 107.
	The media is not laying flat on the glass.	Close the scanner lid tightly.

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Problem	Cause	Solution
Communication errors on the PC	One or more of the printer cables is loose.	Check the printer cables and make sure they are plugged in securely.
	The product is not on.	Turn the product on.
	If the product is connected through a network, the IP address may have changed.	Verify that the IP Address for the product is correct.
	Antivirus, antispyware, or firewall software may be interfering with communication.	Consult the antivirus, antispyware, or firewall software documentation.
	The product is in an error state.	Check the product control panel and clear any errors by following the on-screen instructions.
	The product is busy with another task.	Wait for the product to finish.
	The wrong scanner driver is selected for the product.	Verify that the scanner driver is correct.
The scan job does not complete.	The resolution may be too high for the available memory on the PC.	Try scanning at a lower resolution.
Scan To destinations do not appear on the product.	The product may have been power cycled.	Wait a few minutes for the product to update the Scan To destinations list. Click Update in the Scan To setup application to add destinations to the product.

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Fax problems

To solve fax issues, see Solve fax problems on page 147.

Optimize and improve image quality

Print-quality checklist

General print-quality problems can be solved by using the following checklist:

1. Make sure that the paper or print media that you are using meets specifications. See Paper and print media on page 53. Generally, smoother paper provides better results.
2. If you are using a special print media such as labels, transparencies, glossy, or letterhead, ensure that you have printed by type.
3. Print a configuration page and supplies status page at the product control panel. See Information pages on page 168.
    - Check the supplies status page to see if any supplies are low or empty. No information is provided for non-HP print cartridges.
    - If the pages do not print correctly, the problem is with the hardware. Contact HP. See www.hp.com/support/CM2320series or the support flyer that came in the product box.
4. Print a demo page from HP ToolboxFX. If the page prints, the problem is with the printer driver. Try printing from another printer driver. For example, if you are using the PCL 6 printer driver, print from the PS printer driver.
    - Use the Add Printer Wizard in the **Printers** (or **Printers and Faxes** in Windows XP) dialog box to install the PS driver.
5. Try printing from a different program. If the page prints correctly, the problem is with the program from which you were printing.
6. Restart the computer and the product and try printing again. If the problem is not resolved, see General print quality issues on page 219.

Manage and configure printer drivers

Print-quality settings affect how light or dark the print is on the page and the style in which the graphics are printed. You can also use the print-quality settings to optimize the print quality for a specific media type.

You can change the settings in the product properties to accommodate the types of jobs that you are printing. The following settings are available, depending on the printer driver that you are using:

- **600 dpi**
- **Custom:** This setting produces the same resolution as the default setting, but you can change the scale patterns.

NOTE: Changing the resolution can change the formatting of your text.

Temporarily change print-quality settings

To change the print-quality settings only for the current software program, open the properties through the **Print Setup** menu in the program that you are using to print.

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Change print-quality settings for all future jobs

NOTE: For Macintosh instructions, see Change printer-driver settings for Macintosh on page 36.

For Windows 2000:

1. In the Windows system tray, click **Start**, select **Settings**, and then click **Printers**.
2. Right-click the product icon.
3. Click **Properties** or **Printing Preferences**.
4. Change the settings, and click **OK**.

For Windows XP:

1. In the Windows system tray, click **Start**, click **Control Panel**, and then click **Printers and Faxes**.
2. Right-click the product icon.
3. Click **Properties**, or click **Printing Preferences**.
4. Change the settings, and click **OK**.

For Windows Vista:

1. In the Windows system tray, click **Start**, click **Control Panel**, and then, under **Hardware and Sound**, click **Printer**.
2. Right-click the product icon.
3. Click **Properties**, or click **Printing Preferences**.
4. Change the settings, and click **OK**.

Solve connectivity problems

Solve direct-connection problems

If the product is experiencing connection issues while directly connected to a computer, complete the following steps:

1. Make sure that USB cable is no longer than 2 meters (6 feet).
2. Make sure that both ends of the USB cable are connected.
3. Make sure that the cable is a USB 2.0 Hi-Speed-certified cable.
4. If the error persists, use a different USB cable.

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Network problems

Verify that the product is on and online

Check the following items to make sure the product is ready to print.

1. Is the product plugged in and turned on?

   Make sure that the product is plugged in and turned on. If the problem persists, you might have a defective power cable, power source, or product.

2. Is the product Ready light on?

   If the light is blinking, you might need to wait until the current job is completed.

3. Is the product control-panel display blank?

   - Make sure the product is turned on.
   - Make sure the product is installed correctly.

4. Does a message other than **Ready** appear on the product control-panel display?

   - See your product documentation for a complete list of control panel messages and corrective actions.

Resolve communication problems with the network

Check the following items to verify that the product is communicating with the network. This information assumes you have already printed a network configuration page (see Information pages on page 168).

1. Are there any physical connection problems between the workstation or file server and the product?

   Verify that the network cabling, connections, and router configurations are correct. Verify that the network cable lengths meet network specifications.

2. Are the network cables connected properly?

   Make sure that the product is attached to the network using the appropriate port and cable. Check each cable connection to make sure it is secure and in the right place. If the problem continues, try a different cable or ports on the hub or transceiver. The amber activity light and the green link status light next to the port connection on the back of the product should be lit.

3. Are the product link speed and duplex settings set correctly?

   Hewlett-Packard recommends leaving this setting in automatic mode (the default setting).

4. Can you "ping" the product IP address?

   Use the command prompt to ping the product from the computer. For example:

   ```
   ping 192.168.45.39
   ```

   Ensure that the ping displays round-trip times.

   If you are able to ping the product, verify that the IP address configuration for the product is correct on the computer. If it is correct, delete and then add the product again.

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If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the product, and the computer are all configured for the same network.

5. Have any software programs been added to the network?

   Make sure they are compatible and that they are installed correctly with the correct printer drivers.

6. Are other users able to print?

   The problem may be workstation-specific. Check the workstation network drivers, printer drivers, and redirection.

7. If other users are able to print, are they using the same network operating system?

   Check your system for proper network operating system setup.

8. Is your protocol enabled?

   Check the status of your protocol on the network configuration page. See Information pages on page 168. You can also use the embedded Web server or HP ToolboxFX to check the status of other protocols. See HP ToolboxFX on page 170.

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Solve software problems

Solve common Windows problems

Error message:

"General Protection FaultException OE"

"Spool32"

"Illegal Operation"

Cause	Solution
	Close all software programs, restart Windows, and try again. Select a different printer driver. If the device PCL 6 printer driver is selected, switch to the PCL 5 or HP postscript level 3 emulation printer driver, which can be done from a software program. Delete all temp files from the Temp subdirectory. Determine the name of the directory by opening the AUTOEXEC.BAT file and looking for the statement "Set Temp =". The name after this statement is the Temp directory. It is usually C:\TEMP by default, but can be redefined. See the Microsoft Windows documentation that came with the computer for more information about Windows error messages.

Solve common Macintosh problems

Table 15-2 Problems with Mac OS X v10.3 and Mac OS X v10.4

The printer driver is not listed in Printer Setup Utility.

Cause	Solution
The product software might not have been installed or was installed incorrectly.	Make sure that the PPD is in the following hard drive folder: `Library/Printers/PPDs/Contents/Resources/<lang>.lproj`, where “<lang>” represents the two-letter language code for the language that you are using. If necessary, reinstall the software. See the getting started guide for instructions.
The Postscript Printer Description (PPD) file is corrupt.	Delete the PPD file from the following hard drive folder: `Library/Printers/PPDs/Contents/Resources/<lang>.lproj`, where “<lang>” represents the two-letter language code for the language that you are using. Reinstall the software. See the getting started guide for instructions.

The product name, IP address, or “Bonjour” host name does not appear in the printer list box in the Printer Setup Utility.

Cause	Solution
The product might not be ready.	Make sure that the cables are connected correctly, the product is on, and the ready light is on. If you are connecting through a USB or Ethernet hub, try connecting directly to the computer or use a different port.

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Table 15-2 Problems with Mac OS X v10.3 and Mac OS X v10.4 (continued)

The product name, IP address, or “Bonjour” host name does not appear in the printer list box in the Printer Setup Utility.

Cause	Solution
The wrong product name, IP address, or "Bonjour" host name is being used.	Check the product name, IP address, or "Bonjour" host name by printing a configuration page See Information pages on page 168. Verify that the name, IP address, or "Bonjour" host name on the configuration page matches the product name, IP address, or "Bonjour" host name in the Printer Setup Utility.
The interface cable might be defective or of poor quality.	Replace the interface cable. Make sure to use a high-quality cable.

A print job was not sent to the product that you wanted.

Cause	Solution
The print queue might be stopped.	Open the print queue, and then click **Start Jobs**.
The wrong product name or IP address is being used. Another product with the same or similar name, IP address, or "Bonjour" host name might have received your print job.	Check the product name, IP address, or "Bonjour" host name by printing a configuration page See Information pages on page 168. Verify that the name, IP address, or "Bonjour" host name on the configuration page matches the product name, IP address, or "Bonjour" host name in the Printer Setup Utility.

An encapsulated PostScript (EPS) file does not print with the correct fonts.

Cause	Solution
This problem occurs with some programs.	• Try downloading the fonts that are contained in the EPS file to the product before printing. • Send the file in ASCII format instead of binary encoding.

You are unable to print from a third-party USB card.

Cause	Solution
This error occurs when the software for USB printers is not installed.	When adding a third-party USB card, you might need the Apple USB Adapter Card Support software. The most current version of this software is available from the Apple Web site.

When connected with a USB cable, the product does not appear in the Macintosh Printer Setup Utility after the driver is selected.

Cause	Solution
This problem is caused by either a software or a hardware component.	**Software troubleshooting** • Check that your Macintosh supports USB. • Verify that your Macintosh operating system is Mac OS X v10.3 or Mac OS X v10.4. • Ensure that your Macintosh has the appropriate USB software from Apple.

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Table 15-2 Problems with Mac OS X v10.3 and Mac OS X v10.4 (continued)

When connected with a USB cable, the product does not appear in the Macintosh Printer Setup Utility after the driver is selected.

Cause	Solution
	Hardware troubleshooting • Check that the product is turned on. • Verify that the USB cable is connected correctly. • Check that you are using the appropriate high-speed USB cable. • Ensure that you do not have too many USB devices drawing power from the chain. Disconnect all of the devices from the chain, and connect the cable directly to the USB port on the host computer. • Check to see if more than two nonpowered USB hubs are connected in a row on the chain. Disconnect all of the devices from the chain and connect the cable directly to the USB port on the host computer. **NOTE:** The iMac keyboard is a nonpowered USB hub.

Solve PostScript (PS) errors

The following situations are PS language specific and may occur when several product languages are being used.

NOTE: To receive a printed or screen displayed message when PS errors occur, open the **Print Options** dialog box and click the selection next to the PS Errors section. You can also use the embedded Web server.

Table 15-3 PS errors

Issue	Cause	Solution
The job prints in Courier (the product's default typeface) instead of the typeface you requested.	The requested typeface is not downloaded. A personality switch may have been performed to print a PCL job just before the PS printing job was received.	Download the desired font and send the print job again. Verify the type and location of the font. Download to the product if applicable. Check with the software documentation.
A legal page prints with clipped margins.	Print job too complex.	You may need to print your job at 600 dots per inch, reduce the complexity of the page, or install more memory.
A PS error page prints.	Print job may not be PS.	Make sure the print job is a PS job. Check to see whether the software program expected a setup or PS header file to be sent to the product.
Limit Check Error	Print job is too complex.	You may need to print your job at 600 dots per inch, reduce the complexity of the page, or install more memory.
VM Error	Font Error	Select unlimited downloadable fonts from printer driver.
Range Check	Font Error	Select unlimited downloadable fonts from printer driver.

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Solve scan-to-e-mail problems

IP address not found, or cannot resolve gateway.

Cause	Solution
The device might not have a DNS entry configured by DHCP.	Use the IP address for the SMTP gateway or manually configure the IP address. See system administrator for further assistance. Network issues might be causing connection issues.

SMTP gateway is invalid. Enter a valid gateway.

Cause	Solution
SMTP gateway test failed during setup.	The SMTP gateway or port are incorrect. Check with system administrator.

Cannot connect to the SMTP Server.

Cause	Solution
Device cannot resolve the hostname for your SMTP Gateway.	Make sure your SMTP gateway server is running correctly. Try using the IP address or correcting your DNS server entry. Contact your ISP or IT administrator for help.

The connection to the SMTP server was lost.

Cause	Solution
	Try to send the e-mail again. Check with your ISP or IT administrator to make sure your SMTP gateway is configured appropriately.

SMTP Server Requires Authentication, which is not supported by this device.

Cause	Solution
The product needs a gateway that doesn't require authentication.	The SMTP gateway the device is trying to use requires authentication. Use a different server.

E-mail won't send.

Cause	Solution
Some SMTP servers require a valid "From:" address to protect against spamming.	Enter a valid "From:" address in the EWS. Make sure you have entered a valid recipient E-mail address.

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E-mail won't send.

Cause	Solution
	Verify the SMTP Gateway is either a valid fully-qualified domain name that your ISP recognizes or a valid IP address. Verify the port is valid for your SMTP Gateway. Check with your IT department or ISP to make sure your SMTP Gateway settings are correct.

E-mail address is invalid. Enter a valid address.

Cause	Solution
The recipient e-mail address is invalid.	Enter a valid e-mail address.

A message indicates that an error occurred while sending the e-mail, and to try sending again.

Cause	Solution
	Try to send the e-mail again. Check with your ISP or IT administrator to make sure your SMTP gateway is configured appropriately.

An e-mail attachment doesn't print as clearly as desired.

Cause	Solution
Resolution needs to be reset.	Increase the scan resolution to 300 before sending your e-mail.

E-mail size is too large. Some pages were not sent.

Cause	Solution
E-mail size is too large.	Lower the scan resolution to 75 dpi before e-mailing the document.

The image appears to be truncated (cut off).

Cause	Solution
The product did not scan the entire page.	Change the scan paper size to a larger paper size.

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A Supplies and accessories

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Order parts, accessories, and supplies

Several methods are available for ordering parts, supplies, and accessories.

Order directly from HP

You can obtain the following items directly from HP:

- **Replacement parts:** To order replacement parts in the U.S., go to www.hp.com/go/hpparts. Outside the United States, order parts by contacting your local authorized HP service center.
- **Supplies and accessories:** To order supplies in the U.S., go to www.hp.com/support/CM2320series. To order supplies worldwide, go to www.hp.com/support/CM2320series. To order accessories, go to www.hp.com/support/CM2320series.

Order through service or support providers

To order a part or accessory, contact an HP-authorized service or support provider.

Order directly through the HP ToolboxFX software

HP ToolboxFX software is a product management tool designed to make product configuration, monitoring, supplies ordering, troubleshooting, and updating as simple and efficient as possible. For more information about HP ToolboxFX software, see HP ToolboxFX on page 32.

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Part numbers

Supplies

Product name	Part number
Black print cartridge	CC530A
Cyan print cartridge	CC531A
Yellow print cartridge	CC532A
Magenta print cartridge	CC533A

NOTE: For information about the yield for the cartridges, see www.hp.com/go/pageyield. Actual yield depends on specific use.

Memory

Product name	Description	Part number
Memory upgrades (DIMMs)	64 MB	C1887A
	128 MB	C9121A

Cable and interface accessories

Product name	Description	Part number
USB cable	2-meter standard USB-compatible device connector	C6518A
	3-meter standard USB-compatible device connector	C6520A
Fax cord	Two-wire phone cord adapter	8121-0811

Paper-handling accessories

Product name	Description	Part number
Optional tray 3	250-sheet input tray for standard sizes.	Q3952A

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User-replaceable parts

Product name	Description	Part number
Separation pad and pickup rollers	Replace when the product is picking up multiple sheets or no sheets. Trying different paper did not resolve the problem.	Contact HP Customer Care to order parts.
Automatic document feeder (ADF)	Replace when the ADF is damaged or not working correctly.	Contact HP Customer Care to order parts.

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B Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP Color LaserJet CM2320, CM2320nf, and CM2320fxi	One-year limited warranty

HP warrants to you, the end-user customer, that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

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THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Customer self repair warranty service

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period, HP identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts: 1) Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service. 2) Parts for which customer self repair is optional. These parts are also designed for Customer Self Repair. If, however, you require that HP replace them for you, this may be done at no additional charge under the type of warranty service designated for your product.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same-day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the phone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

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Print cartridge limited warranty statement

This HP product is warranted to be free from defects in materials and workmanship.

This warranty does not apply to products that (a) have been refilled, refurbished, remanufactured or tampered with in any way, (b) experience problems resulting from misuse, improper storage, or operation outside of the published environmental specifications for the printer product or (c) exhibit wear from ordinary use.

To obtain warranty service, please return the product to place of purchase (with a written description of the problem and print samples) or contact HP customer support. At HP's option, HP will either replace products that prove to be defective or refund your purchase price.

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THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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Customer support

Get telephone support, free during your warranty period, for your country/region Have the product name, serial number, date of purchase, and problem description ready.	Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/.
Get 24-hour Internet support	www.hp.com/support/CM2320series
Get support for products used with a Macintosh computer	www.hp.com/go/macosx
Download software utilities, drivers, and electronic information	www.hp.com/go/LJCM2320_software
Order supplies and paper	www.hp.com/go/suresupply
Order genuine HP parts or accessories	www.hp.com/buy/parts
Order additional HP service or maintenance agreements	www.hp.com/go/carepack

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C Specifications

This section contains the following information about the product:

- Physical specifications
- Electrical specifications
- Power consumption and acoustic emissions (HP Color LaserJet CM2320, HP Color LaserJet CM2320 MFP Fax Model, HP Color LaserJet CM2320 MFP Memory-Card Model)
- Environmental specifications
- Paper and print media specifications

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Physical specifications

Table C-1 Physical specifications

Product	Height	Depth	Width	Weight
HP Color LaserJet CM2320	532 mm (21.0 inches)	492 mm (19.4 inches)	497 mm (19.6 inches)	29.4 kg (64.8 lb)
HP Color LaserJet CM2320 MFP Fax Model	532 mm (21.0 inches)	492 mm (19.4 inches)	497 mm (19.6 inches)	31.1 kg (68.5 lb)
HP Color LaserJet CM2320 MFP Memory-Card Model	532 mm (21.0 inches)	492 mm (19.4 inches)	497 mm (19.6 inches)	31.1 kg (68.5 lb)

Electrical specifications

△ **CAUTION:** Power requirements are based on the country/region where the product is sold. Do not convert operating voltages. This will damage the product and void the product warranty.

Table C-2 Electrical specifications

Item	110-volt models	230-volt models
Power requirements	100 to 127 VAC (+/- 10%)	220 to 240 VAC (+/- 10%)
	60 Hz (+/- 3 Hz)	50 Hz (+/- 3 Hz)
Rated current	6.0 A	3.0 A

Power consumption and acoustic emissions (HP Color LaserJet CM2320, HP Color LaserJet CM2320 MFP Fax Model, HP Color LaserJet CM2320 MFP Memory-Card Model)

See www.hp.com/go/cljcm2320mfp/regulatory for current information.

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Environmental specifications

Table C-3 Environmental specifications[1]

	Recommended	Operating	Storage
Temperature	15° to 32.5° C (59° to 90.5° F)	15° to 32.5° C (59° to 90.5° F)	–20° to 40° C (–4° to 104° F)
Relative humidity	20 to 70%	15 to 80%	85% or less

[1] Values are subject to change.

Paper and print media specifications

For information about the supported paper and print media, see Supported paper and print media sizes on page 55.

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D Regulatory information

This section contains the following regulatory information:

- FCC regulations
- Environmental product stewardship program
- Additional statements for telecom (fax) products
- Declaration of conformity
- Country/region specific statements

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FCC regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

NOTE: Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

Environmental product stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O_3).

Power consumption

Power usage drops significantly while in Ready/Sleep mode, which saves natural resources and saves money without affecting the high performance of this product. To determine the ENERGY STAR® qualification status for this product see the Product Data Sheet or Specifications Sheet. Qualified products are also listed at:

http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html

Paper use

This product's manual/optional automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

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HP LaserJet print supplies

It's easy to return and recycle your empty HP LaserJet print cartridges—free of charge—with HP Planet Partners. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package. You help reduce the toll on the environment further when you return multiple cartridges together rather than separately.

HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, customer use and recycling. When you participate in the HP Planet Partners program, we ensure your HP LaserJet print cartridges are recycled properly, processing them to recover plastics and metals for new products and diverting millions of tons of waste from landfills. Since this cartridge is being recycled and used in new materials, it will not be returned to you. Thank you for being environmentally responsible!

NOTE: Use the return label to return original HP LaserJet print cartridges only. Please do not use this label for HP inkjet cartridges, non-HP cartridges, refilled or remanufactured cartridges or warranty returns. For information about recycling your HP inkjet cartridges please go to http://www.hp.com/recycle.

Return and recycling instructions

United States and Puerto Rico

The enclosed label in the HP LaserJet toner cartridge box is for the return and recycling of one or more HP LaserJet print cartridges after use. Please follow the applicable instructions below.

Multiple returns (two to eight cartridges)

1. Package each HP LaserJet print cartridge in its original box and bag.
2. Tape up to eight single boxes together using strapping or packaging tape (up to 70 lbs).
3. Use a single pre-paid shipping label.

OR

1. Use your own suitable box, or request a free bulk collection box from the http://www.hp.com/recycle or 1-800-340-2445 (holds up to eight HP LaserJet print cartridges).
2. Use a single pre-paid shipping label.

Single returns

1. Package the HP LaserJet print cartridge in its original bag and box.
2. Place the shipping label on the front of the box.

Shipping

For all HP LaserJet print cartridge recycling returns, give the package to UPS during your next delivery or pickup, or take it to an authorized UPS drop-off center. For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit http://www.ups.com. If you are returning via USPS label, give the package to a U.S. Postal Service carrier or drop off at a U.S.Postal Service Office. For more information, or to order additional labels or boxes for bulk returns, visit http://www.hp.com/recycle or call 1-800-340-2445. Requested UPS pickup will be charged normal pickup rates. Information subject to change without notice.

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Non-US returns

To participate in HP Planet Partners return and recycling program, just follow the simple directions in the recycling guide (found inside the packaging of your new printer supply item) or visit http://www.hp.com/recycle. Select your country/region for information on how to return your HP LaserJet printing supplies.

Paper

This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

This HP product does not contain added mercury.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP Color LaserJet CM2320 MFP Series	
Type	Carbon monofluoride lithium
Weight	0.8 g
Location	On formatter board
User-removable	No

廢電池請回收

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

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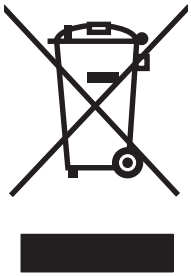
Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by contacting the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/globalcitizenship/environment.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

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Additional statements for telecom (fax) products

EU statement for telecom operation

This product is intended to be connected to the analog Public Switched Telecommunication Networks (PSTN) of European Economic Area (EEA) countries/regions. It meets requirements of EU R&TTE Directive 1999/5/EC (Annex II) and carries appropriate CE conformity marking. For more details, see Declaration of Conformity issued by the manufacturer in another section of this manual. However, due to differences between individual national PSTNs, the product may not guarantee unconditional assurance of successful operation on every PSTN termination point. Network compatibility depends on the correct setting being selected by the customer in preparation of its connection to the PSTN. Please follow the instructions provided in the user manual. If you experience network compatibility issues, please contact your equipment supplier or Hewlett-Packard help desk in the country/region of operation. Connecting to a PSTN termination point may be the subject of additional requirements set out by the local PSTN operator.

New Zealand telecom statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment may not provide for the effective hand-over of a call to another device connected to the same line.

This equipment shall not be set up to make automatic calls to the Telecom "111" Emergency Service.

This product has not been tested to ensure compatibility with the FaxAbility distinctive ring service for New Zealand.

Telephone Consumer Protection Act (United States)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided cannot be a 900 number or any other number for which charges exceed local or long-distance transmission charges.)

IC CS-03 requirements

Notice: The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible for the equipment to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company

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cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution can be particularly important in rural areas.

△ **CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate. The Ringer Equivalence Number (REN) of this device is 0.0.

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed five (5.0). The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

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Declaration of conformity

HP Color LaserJet CM2320 MFP

Declaration of Conformity
according to ISO/IEC 17050-1 and EN 17050-1

Manufacturer's Name:	Hewlett-Packard Company	DoC#: BOISB-0701-01-rel.1.0
Manufacturer's Address:	11311 Chinden Boulevard, Boise, Idaho 83714-1021, USA	

declares, that the product

Product Name:	HP Color LaserJet CM2320 MFP
Regulatory Model Number[2)]	BOISB-0701-01
Product Options:	ALL
Print Cartridges:	CC530A, CC531A, CC532A, CC533A

conforms to the following Product Specifications:

SAFETY:	IEC 60950-1:2001 / EN60950-1: 2001 +A11 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR22:2005 / EN55022:2006 – Class B[1)] EN 61000-3-2:2000 +A2 EN 61000-3-3:1995 +A1 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC and carries the CE-Marking CE accordingly.

This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two Conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).

Boise, Idaho , USA

January 2008

For regulatory topics only:

European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe,, Herrenberger Straße 140, D-71034 Böblingen, Germany, (FAX: +49-7031-14-3143), http://www.hp.com/go/certificates
USA Contact:	Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, Idaho 83707-0015, , (Phone: 208-396-6000)

HP LaserJet CM2320 Fax Model / CM2320 Memory-Card Model

Declaration of Conformity
according to ISO/IEC 17050-1 and EN 17050-1

Manufacturer's Name:	Hewlett-Packard Company	DoC#: BOISB-0701-02-rel.1.0
Manufacturer's Address:	11311 Chinden Boulevard, Boise, Idaho 83714-1021, USA	

declares, that the product

Product Name:	HP Color LaserJet CM2320nf MFP HP Color LaserJet CM2320fxi MFP
Accessories[4)]	BOISB-0704-00 (US-Fax Module LIU) BOISB-0704-01 (EURO-Fax Module LIU)

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Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1

Regulatory Model Number[2)]	BOISB-0701-02
Product Options:	ALL
Print Cartridges:	CC530A, CC531A, CC532A, CC533A

conforms to the following Product Specifications:

SAFETY:	IEC 60950-1:2001 / EN60950-1: 2001 +A11 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR22:2005 / EN55022:2006 – Class B[1)] EN 61000-3-2:2000 +A2 EN 61000-3-3:1995 +A1 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003
TELECOM:	ES 203 021; FCC Title 47 CFR, Part 68[3)]

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC, the R&TTE Directive 1999/5/EC (Annex II), and carries the CE-Marking CE accordingly.

This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two Conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).

3) Telecom approvals and standards appropriate for the target countries/regions have been applied to this product, in addition to those listed above.

4.) This product uses an analog fax accessory module which Regulatory Model numbers are: BOISB-0704-00 (US-LIU) or BOISB-0704-01 (EURO LIU), as needed to meet technical regulatory requirements for the countries/regions this product will be sold.

Boise, Idaho , USA

January 2008

For regulatory topics only:

European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe,, Herrenberger Straße 140, D-71034 Böblingen, Germany, (FAX: +49-7031-14-3143), http://www.hp.com/go/certificates
USA Contact:	Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

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Country/region specific statements

Laser safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The device is certified as a “Class 1” laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

⚠ **WARNING!** Using controls, making adjustments, or performing procedures other than those specified in this user guide may result in exposure to hazardous radiation.

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

« Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. « CEM ». »

VCCI statement (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP Color LaserJet CM2320, CM2320nf, CM2320fxi, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING !

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Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

HUOLTO

HP Color LaserJet CM2320, CM2320nf, CM2320fxi - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömällelasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

VARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

EMI statement (Taiwan)

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Substances table (China)

根据中国电子信息产品污染控制管理办法的要求而出台

Table D-1 有毒有害物质表

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
打印引擎	X	O	X	X	O	O
复印机组件	X	O	O	O	O	O
控制面板	O	O	O	O	O	O
塑料外壳	O	O	O	O	O	O
格式化板组件	X	O	O	O	O	O
碳粉盒	X	O	O	O	O	O

O:表示在此部件所用的所有同类材料中，所含的此有毒或有害物质均低于 SJ/T11363-2006 的限制要求。

X:表示在此部件所用的所有同类材料中，至少一种所含的此有毒或有害物质高于 SJ/T11363-2006 的限制要求。

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NOTE: 引用的“环保使用期限”是根据在正常温度和湿度条件下操作使用产品而确定的。

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